



3rd Java International Nursing Conference 2015

PROCEEDING

“Harmony of Caring and Healing Inquiry for Holistic Nursing Practice; Enhancing Quality of Care”

Semarang, 20 – 21 August 2015



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PROCEEDING
3rd JAVA INTERNATIONAL NURSING CONFERENCE
2015

*“Harmony of Caring and Healing
Inquiry for Holistic Nursing
Practice; Enhancing Quality of
Care”*

Grasia Hotel
Semarang, August 20th – 21st, 2015

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PROCEEDING 3rd JAVA INTERNATIONAL NURSING CONFERENCE 2015
“HARMONY OF CARING AND HEALING INQUIRY FOR HOLISTIC
NURSING PRACTICE; ENHANCING QUALITY OF CARE”

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Proceeding 3rd Java International Nursing Conference 2015

“Harmony of Caring and Healing Inquiry for Holistic Nursing Practice; Enhancing Quality of Care”

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3rd JAVA INTERNATIONAL NURSING CONFERENCE

2015

*“Harmony of Caring and Healing Inquiry for Holistic
Nursing Practice; Enhancing Quality of Care”*

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PREFACE

The 3rd Java International Nursing Conference (JINC-2015) is a leading forum which provides opportunities for the delegates to exchange knowledge, new ideas, best practices and application experiences face to face, to establish academic and research relation and networking, and to find global partners for future collaboration on various of interest in health education field. This conference conducts a series of scientific activities including a keynote speech, plenary speeches, concurrent sessions, and poster presentations. It is a continuing program after twice JINC which successfully held by School of Nursing, Faculty of Medicine, Diponegoro University on 2010 and 2012. Moreover, this event is attended by speakers from domestic and also from other countries who are experts in their fields. Also, we invite participants from all regions in Indonesia and foreign countries.

The theme of this conference is *“Harmony of Caring and Healing Inquiry for Holistic Nursing Practice; Enhancing Quality of Care”*. This theme developed from the fact where the achievement of quality health care can only be obtained with a holistic integrated health services. Holistic health care includes the shape of health services that address the needs of biological, psychological, social, and spiritual. To achieve optimum service, there are some things to consider such aspects reliability, i.e. the ability to perform the promised service as consistent and reliable, as well as aspects of assurance (certainty) that includes the knowledge and hospitality of the employees and their ability to create trust and confidence, courtesy and trustworthiness that of the staff, and free from danger, risk or doubt. In addition, it is also required well-planned programs, and at the same time several important provisions in providing health services to the public, so that both service providers or recipients are equally benefited. So that, health care team (multidiscipline) should discuss together about innovation of their field according to develop an ideal collaborative relationship across culture in holistic health care framework.

We do hope that this conference can answer the challenge. Finally, we welcome you, our respected guests and participants, in Semarang, Indonesia and enjoy the conference.

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ATTACHMENTS

WELCOME SPEECH



WELCOME SPEECH

Assalamu'alaikum warahmatullaahi wabarokaatuh

The honorable the Governor of Central Java

The honorable the Rector of Diponegoro University, the dean and vice deans of the Faculty of Medicine Undip

First of all, let's us thank God who has given us his blessings so that everybody can be present today at the 3rd Java International Nursing Conference 2012. This conference is proudly presented by School of Nursing, Faculty of Medicine, Diponegoro University in collaboration with Kendal Institute of Health Sciences, Central Java Indonesia.

Ladies and Gentlemen,

This year conference is the succession of the 1st and 2nd Java International Nursing Conference organized in 2010 and 2012. The conferences had been successfully organized and served a significant role as a forum which gathered researchers and practitioners from local and international to share their knowledge, ideas, innovations, experiences as well as to establish good networking. All those benefits showed that conference is one of the effective scientific forums to disseminate any advancement of science especially nursing.

We also hope that this year's conference is also successful to bridge the sharing of information and advancement of nursing among all attendees. *'Harmony of Caring and Healing Inquiry; Enhancing Quality of Care'* has been chosen as the theme of the conference. It is with regards the current issues of nursing advances which view that efforts to improve human health should be done by considering all aspects holistically.

The 3rd Java International Nursing Conference 2015 is attended by many participants from diverse cities, regions and islands from Indonesia and some countries abroad such Thailand, Philippines, United Kingdom, and Malaysia. The conference also presents the speakers who are expert in their fields from Indonesia, Japan, Philippines, and Australia. We really appreciate and thank them for all their contributions.

On behalf of the organizing committee, I would like to welcome all attendees who have been here this morning and give their valuable contribution towards the running of this event.

This conference would be impossible without great support from Undip, Central Java government, participants, members of organizing committee, and all collaboration parties. And on this very special occasion, I would like to thank all the contributing parties for their great supports on the organization of this conference.

As the chairperson of this conference, I would also thank all members of the organizing committee who have worked so hard to seek for the best for the running of this conference. Personally I would apologize for any inconvenience that you may have along with the preparation of this conference.

I hope this conference will develop our insights on advanced nursing sciences and practices and become a foundation of nursing development in the future.

Finally, on behalf of the organizing committee, I would like to request the Vice Governor of Central Java to officially open this conference. I wish you all a successful conference and very pleasant stay in Semarang, Central Java. Thank you very much.

Wassalamualaikum warahmatullaahi wabarakaatuh

Sincerely yours,

Artika Nurrahima

KEYNOTE SPEAKER



Holistic Nursing Practice: Art, Science, or Evidence?

3rd Java International Nursing Conference

Associate Professor, Dr Jennieffer Barr
Deputy Dean of Research
Central Queensland University Australia



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Presentation Outline

Introduction

The lessons I have learnt

Considering what is the art of holistic nursing

Do all nurses practice holistic nursing: What does the research say?

Considering the hierarchy of evidence for holistic nursing practice

Looking at research from all paradigms to inform holistic nursing practice

Conclusion

References



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Introduction

- *More than dualism of body and mind*
- *Holistic Care- the synergy of all components that influence our health and wellbeing*
- *Existentialism- being in this world*
- *Embedded in a culture – social and political influences – being connected with others*
- *Spirituality- being connected with a higher order/beliefs –*
- *Metaphysical entity*

My First Lesson: The Power of the Mind over the Body

Before the catch-cry of holistic nursing...

Case Study 1- 50+ year old man

The Second Lesson: That Holistic Care Makes a Difference

- Still current discussion in 2015!

Case Study 2: 19 year old man- major trauma



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My Attempt at Holistic Nursing Care...

His response:

He felt connected

He heard my communication

His primordial need for social, emotional, and
spiritual needs were recognised.



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The Context of the Time...

- The term holistic nursing care was not being used at the time.
- *No influence from the body of science*
- *No known evidence at the time*
- *Using my own personal evidence as I experimented.*
- *? Art of Nursing- an instinct of a young woman?*
- *Being empathetic- thinking of what I would need.*

Holistic Nursing Practice Considerations

- Is the art an existential instinct?
- Can the art of nursing be taught?
- For example, can we teach empathy?

The Importance of Empathy in Holistic Care

- A multicultural society – nomadic society
- *Curious about others, curious about ways of living*
- *Seek adventure, employment or a better life.*
- *We move from our home town or homeland*
- *Stay in your home town- still people there with difference*
- *Different values, beliefs, spiritual practices and different ways of being.*

Not Humanely Possible to know...

- Every culture.
- Every religious belief.
- Every day to day practice.
- *We must be opened.*
- *We must share our general knowledge with the patient's personal knowledge.*
- *We must involve the patient/client.*

What does Research Say about Holistic Nursing Care?

- Hines et al. 2015 narrative inquiry – nurses engaged in healing.
“Tell us a story about a time when you experienced a healing encounter with self or other that was transformational”.
- The power of story- process of telling and hearing stories brings new insights and deeper understanding

Findings...

- *25 nurses engaged in this research.*
- Findings included:
 - Compassion,
 - Co-creating relationships
 - Taking risks and dealing with skeptical colleagues
 - Mutual transformation experiences.

Conceptualising Holistic Nursing care

- Role-Delineation Study, 2012: Validation of holistic nursing competencies.
- Erickson et al. 2013
- New integrated competencies:
 - *use of reflective knowing when gathering or evaluating data and looking for meaning*
 - *Client's comfort*
 - *Using a moral foundation*
 - *Active listening- not just clients but colleagues*
 - *Reflect on one's own beliefs, biases & values*

Another Model: Conceptualising Holistic Nursing care

- Rehabilitation, Nathenson 2012
- Self care- core concept
- Also is nurses taking care of self
- Also mention intuition
- Intention having a clear idea about desired outcome of your intervention- eg educating patient about nutrition- not just information but practical suggestions for the necessary change to improve cardiovascular health

Conceptualising Holistic Nursing care: Rehabilitation Continued

- Functional nursing- skill set
- Healing touch- treatment first designed by Janet Mentgen
- Engagement- meaningful relationship between nurse and patient
- Belief
- Lifelong learning
- Self actualization- last psychological development

Measuring Holistic Nursing Care

- Tools to measure competency in delivering the care.
- A recent tool, Japan, Holistic Nursing Competency Scale.
- 36 items
- Two components-
- *Nurses' general aptitude*
- *Nurses' professional attributes*
- Includes ability to critically think, to reflect on one's self, and compassion.
- Overall tool test- 0.70 Alpha coefficient (Takasem & Teraoka 2011).

Educating Nursing Students

- Quality study.
- Students should be motivated by expert nurses who engage in holistic nursing care.
- Undergraduate nurses attending a conference on holistic care.
- *“Holistic nursing is actually about the way you view and treat your patients”.*
- (Christiaens et al. 2010)

What is obvious to us... is it obvious to all?

- We are converts/ believers of holistic nursing practice.
- Recent evidence shows that not all nurses are engaged in holistic care.
- Some arguments presented:
 1. insufficient time to communicate and meet the family's needs.
 2. that clinical needs (health assessment and treatment, eg. Administering medication) and technology are the priorities (Guadalupe 2014).
- Iran nurses stick to their traditions of routine tasks and clinical medical needs (Zamanzadeh et al. 2015).

Francis Report: Angles to Folk Devils

- Staffordshire Hospital United Kingdom.
- Investigation following a number of deaths.
- Conclusion-
 - *Terrible standard of service,*
 - *Shocking failures to care,*
 - *Neglect, and*
 - *Cruelty.*
- Some nurses are no longer willing or able to care (Rolf 2015).

The Involvement of Research

- A perception that holistic care is challenging to implement at times with some evidence having priority when recommendations are made.
- Period of Enlightenment- positivistic paradigm
- The rationality of science (Rolf 2015).
- The gold standard of evidence – randomized clinical trial.
- Leads to statistical significant knowledge, evidence for use in clinical practice.
- Clinical nurses need to use this and individualize such knowledge to each person.

Reliability and Validity: One Truth of Many

- As a researcher, and in my role as Deputy Dean of Research- do not want to deny the importance of quantitative research.
- Reliable and valid research should be informing our practice.
- Qualitative research also provides authentic evidence for the human experiences found in clinical practice.
- All paradigms of research are useful to provide evidence to inform practice.

What of the evidence of expert opinion?

- Expert opinion is one of the last types of evidence - useful for clinical practice.
- When is this expert opinion and the art of nursing?
- Case study 3: the post-operative patient returning to the ward

Expert Opinion Continued

- *What of the expert nurse who can build rapport and trust, whilst collecting data from a very sick patient?*
- *Analysing the information requires critical thinking and knowledge from science.*
- *The ability to communicate effectively and therapeutically is that science or art?*
- Leave that one for you to talk about over lunch.

Value of all Evidence for Holistic Nursing Practice

- Categorical models present qualitative research below most quantitative research- Cochrane and Joanna Briggs Evidence Models- ? Enough for holism
- If it is argued that we should work with our patients in order to understand and meet their needs then it is not difficult to support Rolfe's claim (2015) that coming to understanding occurs through relationships, not through empirical research (p. 150).

In conclusion,

- To engage in holistic nursing practice we need:
 - ☐ science,
 - ☐ all types of evidence to individualise care, and
 - ☐ the art of nursing.

Social Science provides us with generalist knowledge and understandings and interpretations of human experiences. The art of nursing is implemented when nurses use therapeutic communication, passion, and appropriate touch. Expert opinion could be either ongoing evidence or the art of nursing. Overall, contemporary nursing is about working with the patient and being respectful about the patient's personal knowledge.

The synergy together provides the best way forward for person- centered care; holistic Nursing care.

Final Comment...

- Holistic nursing is an important component to patient-centered care (Esmaeili et al. 2013)

Therefore, for holistic nursing care and patient-centered care:

Science, evidence and art together become a formidable tool for all nurses.

References

- Erickson et al. 2013 Role-Delineation validation of holistic nursing competencies. *Journal of Holistic Nursing*, 31 (4), 291-302.
- Esmaeili et al. 2013 Barriers to patient-centered care: A thematic analysis study. *International Journal of Nursing Knowledge*. 25 (1). 2-8.
- Guadalupe, R. P. 2014 Care, compassion, and communication in professional nursing: Art, Science, or both. *Clinical Journal of Oncology Nursing*, 18 (2), 247- 248.
- Rolfe, G. 2015 Foundations for a human science of nursing: Gadamer, Laing, and the hermeneutics of Caring. *Nursing Philosophy*, 16, 141-152.
- Zamanzadeh et al. 2015 Effective factors in providing holistic care: A qualitative study. *Indian Journal of Palliative Care*, 21 (2), 214-223.

A 3D pyramid with a spiral of flags around it. The pyramid's faces are decorated with intricate, colorful patterns. A ribbon of various national flags, including the United States, United Kingdom, Japan, and others, spirals around the pyramid. The background is a solid light orange color.

The deteriorating patient and patient assessment. Where do nurses fit?

Presenter: Associate Professor Carol Windsor, QUT School of Nursing,
Honorary Appointment with Royal Brisbane & Women's Hospital

What we knew...

- **Problems:**

- Nurses are taught physical assessment skills that they do not practice

• (Giddens, 2007; Giddens & Eddy, 2009)

- Hospital patients are older, sicker and more vulnerable to complications

• (Massey et al., 2009)

- Patient deterioration is not being recognised early

• (Silver et al., 1991)

- **Responses:**

- Too many physical assessment skills taught to nurses

• (Giddens & Eddy, 2009)

- Hospital wide systems such as early warning scores and rapid response teams

• (Devita et al., 2014)

The Research Team

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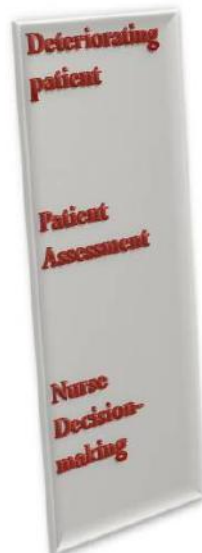
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Research Assistants: Mary Batch², Olivia Hollingdrake²

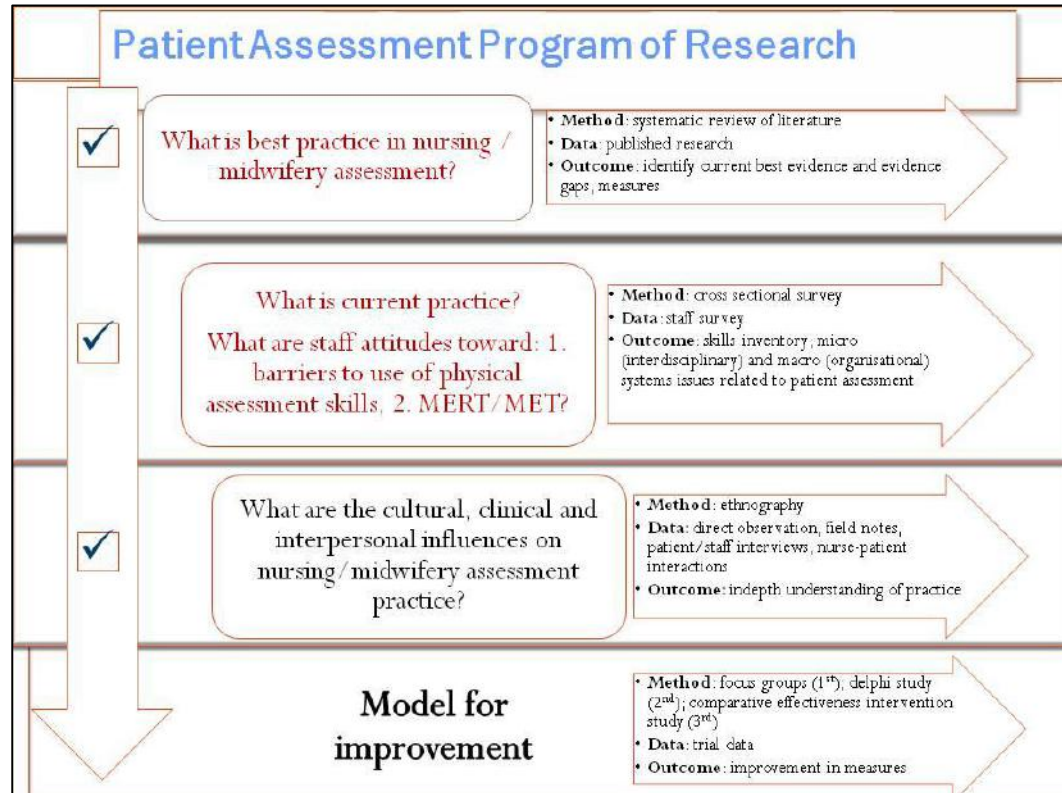
Patient Assessment NMEC Research Council (RBWH)



- **Purpose**
 - To integrate best evidence into patient assessment and observation practice across the organisation
 - To promote a culture of research & EBP among nurses and midwives at the RBWH
 - *Partnered with QUT School of Nursing to pursue research program*

Patient Assessment NMEC Research Council (RBWH)

- **Problem Statement:**
 - Lack of confidence in the quality of nurses' skills and in attitudes related to patient assessment in acute care
- **Meta Question:**
 - What nursing assessment activities are most effective in the acute care environment for timely detection and management of patients deteriorating health status?



Problem

- Clinical deterioration frequently goes unnoticed in hospitalised patients
(Massey, Aitken & Chaboyer, 2009).
- Detectable physiological signs often precede deterioration
(Buist, Bernard, Nguyen et al., 2004; Jones, DeVita & Bellomo, 2011).
- At best mixed findings about the effectiveness of hospital safety initiatives
(Jones et al., 2011; Kyriacos, Jelama, & Jordan, 2011).

Our concerns:

- Evidence re Rapid Response Systems?

- Nurses deskilled?

| YOUR PAGING NUMBER GOES HERE | |
|---------------------------------|---|
| CALLING CRITERIA | |
| EXAMPLES OF WHEN TO CALL ACCESS | |
| A IRWAY | <ul style="list-style-type: none"> • Obstructed • Stridor • Excessive secretions |
| B REATHING | <ul style="list-style-type: none"> • Respiratory rate ≤ 8 or ≥ 30 • Distressed breathing • Saturation $< 90\%$ on oxygen |
| C IRCULATION | <ul style="list-style-type: none"> • Systolic BP ≤ 90 or ≥ 200 mmHg • BP decrease > 40 mmHg • Heart rate ≤ 40 or ≥ 130 • Low urine output (≤ 100ml in 4 hr) |
| D ISABILITY | <ul style="list-style-type: none"> • Altered level of consciousness • Sudden loss of movement |

Figure 1: Conventional Activation Criteria
Courtesy of Stephen Lapinsky, MD, Mount Sinai Hospital.

St Thomas's Risk Assessment Tool - STRATIFY

according to Oliver et al. 1997

| | Yes = 1 | No = 0 |
|--|---------|--------|
| Did the patient present to hospital with a fall or has he or she fallen on the ward since admission? | | |
| Do you think the patient is ... | | |
| Agitated? | | |
| Visually impaired to the extent that everyday function is affected? | | |
| In need of especially frequent toileting? | | |
| Transfer and mobility score of 3 or 4? | | |
| Total score | | |

* Transfer score: 0 = unable, 1 = major help needed (one or two people, physical aid), 2 = minor help (verbal or physical), 3 = independent. Mobility score: 0 = immobile, 1 = independent with aid of wheelchair, 2 = walks with help of one person, 3 = independent.

Design, Methods and Measures

Cross sectional survey

- **Design:** hospital wide survey
- **Setting:** 929 bed teaching hospital
- **Participants:** nurses / midwives and medical staff; acute care wards (1591 surveys distributed)
- **Analysis:** descriptive statistics, bivariate (Pearson's R)

Methods / Measures

- 133-item *Physical Assessment Skills (PAS) inventory*
 - only nurses / midwives
 - Likert scale
- 38-item *RNs Perception of Barriers to PAS*
 - only nurses / midwives
 - Likert scale
- 26-item *Rapid Response System Staff Knowledge and Satisfaction Survey*
 - nurses / midwives and medical staff
 - Likert scale

Results – Barriers to PAS

• Barriers to use of physical assessment

- Reliance on others and technology
- Lack of time and interruptions
- Ward culture
- Lack of confidence
- Lack of nursing role models
- Lack of influence on patient care
- Specialty area

- “Barriers to nurses’ use of physical assessment may impair timely recognition of patient deterioration and interventions.”

- “Targeting these factors may improve patient outcomes.”

- Psychometrics - factor analysis, model fit statistics and reliability testing.
- Internal reliability ranged from 0.70–0.86.

Douglas et al 2014

Results – PAS Inventory

- On average, 10 of the 133 skills were regularly performed (*“every time they worked”*).
- **Predominantly vital signs**
 - body temperature
 - blood pressure (manual and automatic)
 - breathing effort (rate and pattern)
 - oxygen saturation
 - mental status/level of consciousness
- **Additional core skills included**
 - skin inspection for colour/ tone
 - skin integrity and lesions
 - wound inspection
- RNs/RMs use a small set of core PAS augmented by a cluster of additional core skills relevant to specialty
- Significant predictors*:
 - Reliance on others and technology ($F=35.77, p<.001$)
 - Lack of confidence ($F= 5.52, p=.02$)

Osborne et al 2015

**Regression analysis - controlling for specialty area and clinical role*

What we know about the hospital rapid response system (MERT)...

- Staff often do not engage with the intervention as it was intended (Shearer et al 2012)
- RRS is a complex cultural system of change that is superimposed on existing local hospital systems and professional norms (Baist et al 2014)
- And so the purpose of this component of the survey was to explore and compare nursing and medical staff perceptions of MERT.

Results – MERT perceptions

- 624 returned surveys (29.8%)
 - 434 Nurse /midwife
 - 190 Medical
 - 24 items
 - Analysis
 - Quantitative Data
 - Fisher's exact test used to compare nursing and medical staff after collapsing response categories into 'strongly disagree (SD)/disagree (D)/uncertain (U)' and 'agree (A)/strongly agree (SA)';
 - MERT = Medical emergency response team,
 - RN = Registered nurse,
 - MO = Medical officer.
 - Perceived benefits and usefulness of MERT
 - Impact on clinical skills and managing acutely ill patients
 - Perceived reasons for MERT calls
 - Beliefs about MERT activation
 - Perceived barriers to MERT activation
 - Teamwork and communication during a MERT call
- Douglas et al 2015

Results – MERT/MET perceptions

RNs had greater clinical experience compared to medical staff
($\chi^2 = 60.86, p < .001$)

| | n (%) | |
|---|--------------------------------|-------------------------------|
| | Registered nurses (n = 434) | Medical officers (n = 190) |
| Years of clinical experience | | |
| < 1 | 4 (0.9) | 24 (12.6) |
| 1-3 | 66 (15.2) | 43 (22.6) |
| 4-5 | 55 (12.7) | 25 (13.2) |
| 6-10 | 81 (18.7) | 41 (21.6) |
| > 10 | 210 (48.4) | 55 (28.9) |
| Specialty area | | |
| Internal medicine | 119 (27.6) | 24 (18.9) |
| Surgical and perioperative | 141 (32.7) | 20 (15.7) |
| Cancer care | 42 (9.7) | 43 (33.9) |
| Women and newborns | 57 (13.2) | 7 (5.5) |
| Mental health | 34 (7.9) | 29 (22.8) |
| Casual pool | 38 (8.8) | 4 (3.1) |
| I have received MERT education in the last 12 months | 294 (67.7) | 115 (60.5) |
| I have a good understanding of the MERT activation criteria | 423 (97.5) | 179 (94.2) |

Note: MERT = Medical emergency response team.

Results – interesting contradictions

| Item | % of respondents | | | | p* |
|---|------------------|------|------|------|------|
| | D | U | A | SA | |
| Patients receive effective assistance from the MERT | 3.5 | 58.1 | 37.4 | | |
| MERT activated by my patients | 6.9 | 64.6 | 27.5 | | .09 |
| I feel confident | 7.9 | 58.9 | 29.5 | | <.01 |
| When covered | 4.7 | 49.5 | 44.4 | | .13 |
| If I am able | 8.4 | 58.9 | 31.6 | | .99 |
| I was worried | 16.9 | 56.9 | 13.3 | | |
| normal | 1.2 | 16.6 | 59.9 | 10.2 | |
| If my patient | 1.0 | 14.5 | 47.0 | 23.5 | |
| but did not | 1.1 | 20.7 | 25.0 | 42.6 | <.01 |
| rapid response | 6.3 | 26.7 | 22.7 | 36.9 | 7.4 |
| | 27.4 | 21.1 | 39.5 | 4.7 | .99 |
| | 19.3 | 41.5 | 19.1 | 19.3 | 0.7 |
| | 22.6 | 31.6 | 2.6 | | <.01 |

Most staff (70%) believed the MERT was

70% would contact treating team before activating

Over 55% were unlikely to activate MERT.

Significant number uncertain about what to do

70% would not activate MERT if pt met criteria but did not look unwell

Results – evidence of tension

| Item | % of respondents | | | | p* |
|-------------|------------------|------|------|------|------|
| | D | U | A | SA | |
| The patient | 46.9 | 10.3 | 7.7 | 1.4 | |
| The patient | 5.3 | 0.5 | | | .20 |
| The patient | 19.4 | 57.4 | 15.3 | | |
| The patient | 6.4 | 17.6 | 64.9 | 10.6 | .49 |
| The patient | 6.5 | 19.2 | 60.9 | 12.5 | |
| The patient | 0.5 | 8.9 | 25.3 | 57.9 | 7.4 |
| The patient | 19.3 | 41.5 | 19.1 | 19.3 | 0.7 |
| The patient | 31.6 | 2.6 | | | <.01 |
| The patient | 23.2 | 66.4 | 5.1 | 4.6 | 0.7 |
| The patient | 19.5 | 01.1 | | 9.5 | 0.5 |

Medical staff less positive

Medical staff less positive about communication during MERT

Med staff more likely to call treating team first or not call MERT based on their assessment

Results –

Both groups feel more supported to activate MERT by members of their own profession

| Item | by members of their own profession | | | | nts | | |
|--|------------------------------------|------|------|------|------|------|-----------------|
| | | | | | A | SA | p ^{ns} |
| I am reluctant to activate the MERT for my patients because I will be criticized if they are not that unwell | RN = 432 | 24.6 | 15.3 | 5.3 | 13.9 | 3.2 | < .01 |
| | MO = 189 | 21.7 | 12.7 | 5.5 | 6.3 | 1.6 | |
| Junior doctors support my decision to call a MERT | RN = 432 | 0.0 | 12.7 | 3.3 | 51.9 | 7.2 | < .01 |
| | MO = 189 | 0.0 | 2.6 | 2.7 | 61.1 | 13.2 | |
| to | RN = 432 | 2.8 | 15.3 | 27.7 | 49.3 | 5.1 | < .01 |
| | MO = 189 | 0.0 | 2.1 | 21.2 | 67.7 | 9.0 | |
| ion | RN = 431 | 0.7 | 1.9 | 5.3 | 62.9 | 29.2 | < .01 |
| | MO = 189 | 0.0 | 1.1 | 14.3 | 68.3 | 16.4 | |
| to | RN = 429 | 0.2 | 0.9 | 5.6 | 63.6 | 29.6 | < .01 |
| | MO = 190 | 0.0 | 1.1 | 15.3 | 70.5 | 13.2 | |

RNs/RMs more
reluctant to activate
MERT for fear of
criticism

Overall Perceptions of MERT

- While both groups rated the MERT positively, RN/RMs perceived the MERT as more effective in managing clinical deterioration (adjusted means = 3.71 vs. 3.58, $F[1, 617] = 5.14$, $p = .02$); RNs perceived greater MERT teamwork and communication (adjusted means = 3.83 vs. 3.71, $F[1, 617] = 5.14$, $p = .02$).

RNs/RMs more
reluctant to activate
MERT because of fear of
criticism

Both groups rated barriers as low

Qualitative analysis

- *The theory behind the MERT team is excellent but depending on the situation/team it can be very ineffective. (RN)*
- *Effectiveness of the MERT system depends entirely on the people within the team on that particular day. (Medical)*

Three analytical outcomes

- **Whose call?**
- **The I and the They**
- **Creating Uncertainty**

Despite the patient being within MERT criteria the medical and MERT teams often ask nursing staff why a MERT was called. Nurses are often criticised at the bedside. (RN)

Too many MERT calls are made... takes up too much clinical time and the 'boy who cried wolf' mentality can make people overly casual about them. (Medical)

Analytical outcomes

- **Whose call?**

By and large I never activate the MERT. I tend to sort out the problems myself. (Medical)

- **The I and the They**

When one of my patients is sick I assess the patient myself and manage appropriately. If deteriorating I will then call MERT or ICU if appropriate. (Medical)

- **Creating Uncertainty**

Analytical outcomes

- **Whose call?**

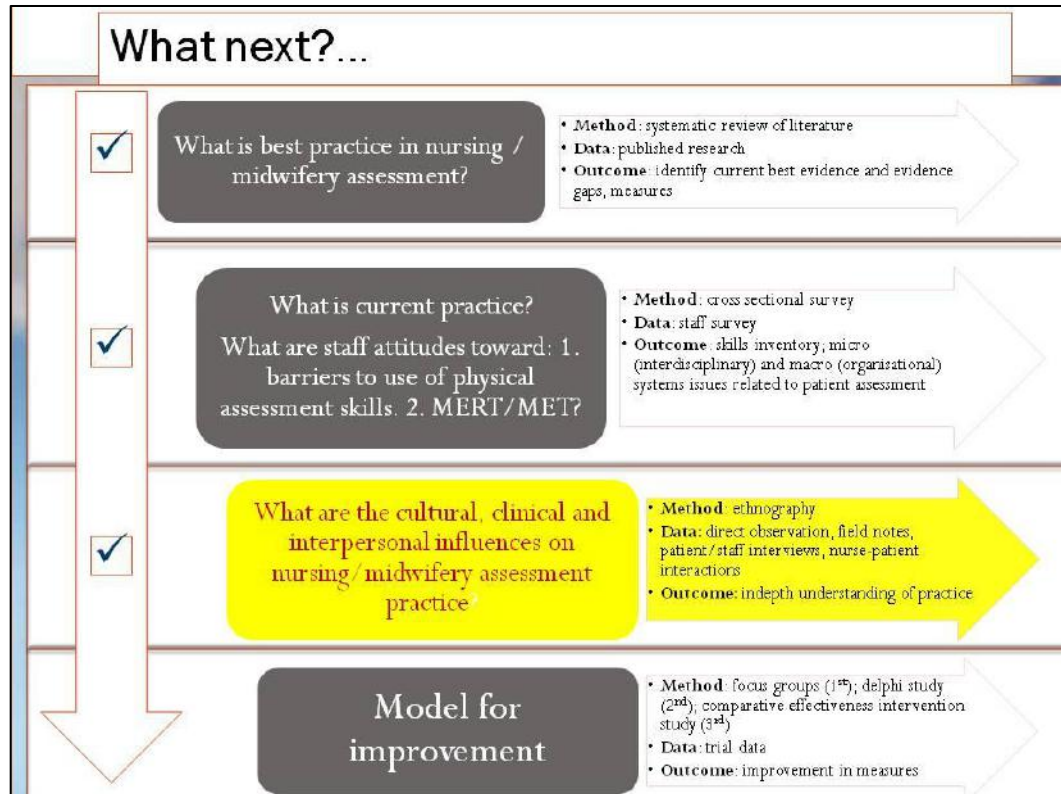
Doctors need to alter MERT criteria more often to avoid unnecessary calls. (RN)

- **The I and the They**

Treating teams are often reluctant to change MERT criteria and yet do not come up with a clear plan for a patient. (RN)

- **Creating Uncertainty**

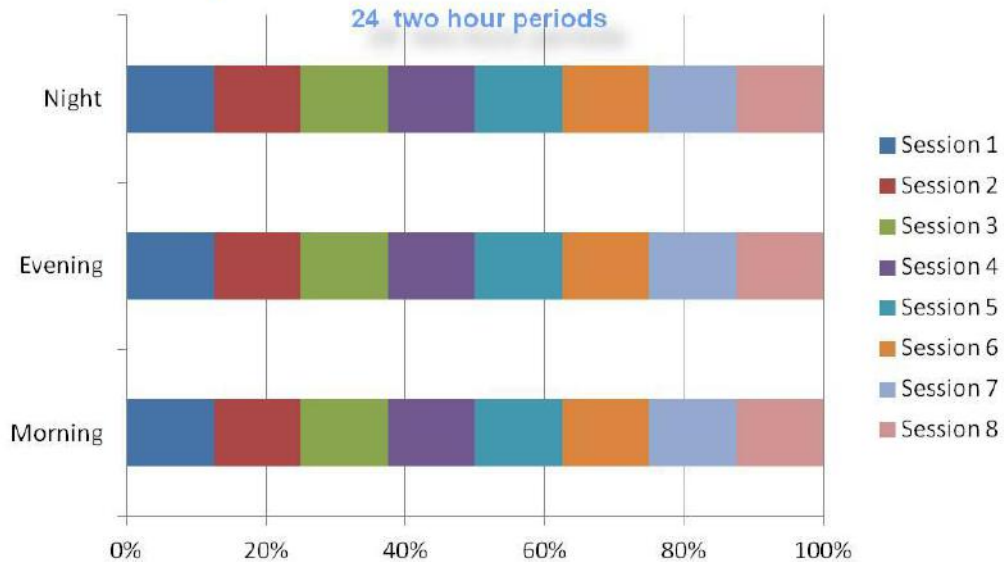
MERT often prevents nursing staff from using their clinical skills to deal with sick patients. (RN)



Ethnography

- Observations
- Informal interviews
- Formal interviews
- 15 RN key informants
- **Five acute clinical areas:**
 - surgical
 - medical
 - mental health
 - oncology
 - maternity

Participant Observation



Findings

- Patient assessment as "extra stuff" — an optional extra

• *If find you don't have a lot of time to constantly be doing all these types of assessment unless it's indicated by either the doctor or their obs, you just don't have time, to like, sort doing extra stuff' (RNP1C)*

• *Well I find that all the nursing assessments that I did learn at uni, we don't really do any of them... We just don't do it. (RN F8)*

- Finding the boundaries of patient assessment

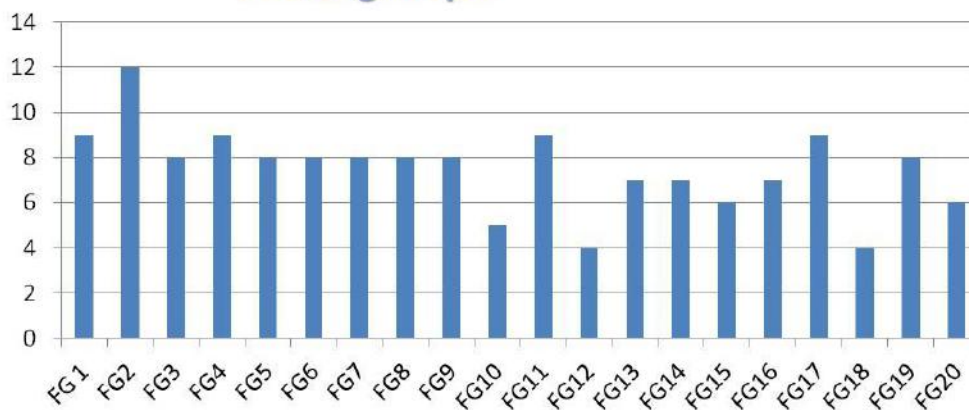
• *You can get away in nursing with just being a data collector, providing you escalate as per your protocol. But I think what makes a good nurse is someone who does the data collection and then does the analysis, and also guides the doctors as well you know, it's open communication (RNP2)*

Brough et al (2015)

Observation

- Later a large group (approximately 10) of medical officers enter the ward... They round each patient bay and perform some physical assessment on some patients. Some assessments are repeated such as BP, although they check for postural drop. What is also significant to me is that they discuss abnormal findings with each other but do not interact with the RNs allocated to this bay. (Researcher)
- Doctors' rounds reinforced the recording function of nurses and an indifference to a more analytical role.

Focus groups



20 Focus Groups
150 Experienced Nurse Clinicians

Preliminary findings

- 40 physical assessment skills were identified in the focus groups
- Common language
- Greater autonomy
- Interdisciplinary approach
- *Well, we're taught – just look at the way we write notes. They write in dot points, and we write stories. So when we talk to each other, they talk in dot points and we talk in stories.*

Delphi Rounds

- Online surveys
- 34 Senior Nurse Clinicians
- Attempt to reach consensus on what patient assessment skills nurses practice

What are the physical assessment skills that every RN or RM should perform at least once per shift on every patient?

Below is a summary of round 2 results. Because there were significant changes in the pattern of responses, we are conducting one final survey to ensure we have consensus on core physical assessment skills.

This final survey provides you with a summary of the overall sample's responses for each skill and asks you to confirm or reject core skills based on your clinical experience. Please answer the survey from a general acute care perspective, rather than your specialty area.

Online Delphi – 34 Senior Nurse Clinicians



Assessment skills that reached consensus in Delphi Round 2:

What are the physical assessment skills that every RN or RM should perform at least once per shift on every patient?

| Vital Signs | Respiratory |
|-------------------------------|---|
| Measure body temperature | Assess airway patency |
| Palpate pulse rate & rhythm | Evaluate work of breathing |
| Measure respiratory rate | |
| Measure manual BP | Skin |
| Measure oxygen saturation | Inspect skin integrity |
| Assess for pain | Inspect & palpate skin for signs of pressure injury |
| Neurological | Observe any wounds, dressings or drains, invasive lines |
| Assess level of consciousness | |
| Evaluate speech | Musculoskeletal |
| Renal | Observe ability to transfer & mobilise |
| Assess urine output | |

Assessment skills **NOT** reaching consensus as “core skills” in Delphi Round 2:

Neurological

Check pupils are equal &
reactive to light
Assess muscle strength

Cardiovascular

Inspect & palpate for skin
colour & temperature
Palpate capillary refill
Palpate extremities for distal
pulses & oedema
Palpate calves for tenderness
Auscultate heart sounds &
apical pulse
Perform & interpret ECG for
abnormal changes

Respiratory

Assess for ability to cough
Auscultate lung sounds

Gastrointestinal

Inspect abdomen
Auscultate bowel sounds
Palpate abdomen
Assess bowel movements

Nutritional

Inspect oral cavity
Assess ability to swallow
Estimate amount of meals
eaten
Measure blood glucose levels
Measure body weight

Renal

Measure 24-hour fluid balance
Measure daily weight
Palpate bladder
Perform & Interpret urinalysis

Musculoskeletal

Observe gait
Inspect major joints for range of
motion

Delphi 1 and 2

| | | |
|--|--|--|
| Vital signs Measure body temperature Palpate pulse rate and rhythm Measure respiratory rate Measure airway patency Measure oxygen saturation Assess for pulse | 100 100 100 100 100 100 | 100 100 100 100 100 100 |
| Neurological Assess level of consciousness Auscultate breath Check pupils are equal Assess for light Assess muscle strength | 99.2 93.3 92.3 75.2 | 99.1 79.9 91.3 77.2 |
| Cardiovascular Inspect & palpate for skin colour & temperature Palpate capillary refill Palpate extremities for distal pulses Palpate calves for tenderness Auscultate heart sounds & apical pulse Perform & interpret ECG for abnormal changes | 79.4 75.5 69.7 68.7 55.3 78.4 | 82.2 91.2 77.2 71.9 58.4 91.8 |
| Respiratory Assess for respiratory Assess for ability to cough Auscultate work of breathing Auscultate lung sounds | 97.1 79.9 97.0 87.7 | 97.1 97.1 97.1 78.1 |
| Gastrointestinal Inspect abdomen Auscultate bowel sounds Palpate abdomen Assess bowel movements | 68.7 55.3 52.9 67.7 | 77.8 77.8 50.9 79.4 |

Further Delphi Rounds

- St Vincent's Hospital, NSW, Australia
- Four acute hospitals in Eastern Health District, Victoria
- 30 Senior RNs at each site

What is missing?

- Generally the human body is a great compensator
- Vital signs - late stages of deterioration are detected
- But are assessment skills being practiced enough to detect early changes in health status?
- Staff perceptions revealed major obstacles to MERT activation – contradictions and tension
- What are the cultural and system level problems to achieve an effective safety culture and achieve improved patient outcomes?



- A model of nursing physical assessment for timely recognition of patients at risk of clinical deterioration.
- Core skills plus speciality skills
- An intervention in selected acute hospital wards across institutions

Conclusion

- Development of comprehensive picture of patient assessment practices will inform development of effective health service improvements in managing patients at risk for clinical deterioration.

Is there time to care?: Holism of ***Knowing-Doing-Valuing*** as Systems of Caring Co-creations in Nursing

3rd Java International Nursing Conference
Semarang Indonesia, Aug 20-21, 2015

Mark Donald C. Reñosa, RN, MSc, DNS
Science Research Specialist, Research Institute for Tropical Medicine
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Barriers to Responsive Caring

1. Nurses at risk of threatened well-being (Rundqvist, et al, 2011)
2. Widening gap between Nursing and Societal Values (Giuffra, 2013)
3. Potential risks caused by Social Media (Ventola, 2014)

What kind of support do nurses need when strong emotions and difficult feelings hinder their growth and maturing?

What curriculum changes are needed in nursing education in order to maintain and support human growth?

How can human care survive in times of financial and technical efficiency in health care receives so much attention?

Is there really time to care?



CARING STORY

**Revitalizing Deep
Faith in Humanity**

1. CARING Hurts.

Attributes of Caring

1. Compassion
2. Competence
3. Conscience
4. Commitment
5. Confidence
6. Comportment

2. Caring is Active.

Roles of Nurses in Caring Science

- Practice of loving-kindness and equanimity
- Authentic presence: enabling deep belief of other
- Cultivation of one's own spiritual practice – beyond ego
- “Being” the caring-healing environment
- Allowing for miracles

(Watson, 2004)

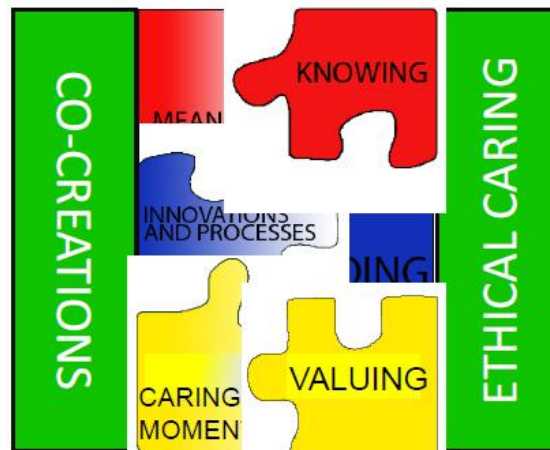
3. Caring is Sacred.

Is there really time to care?

“Perhaps what is required today is that nurses more than ever become skilled in ways to be authentically present with those nursed, whether it be for five or 30 minutes. It is in these minutes that we make the decision to truly nurse or not.”

Boykin, A., & Schoenhofer, S. (2000). Is there really time to care. *Nursing Forum*, 35(4):36–37.

Knowing-Doing-Valuing as SYSTEM of Caring Co-creations In NURSING



AUTHENTIC HUMAN HEALTH EXPERIENCE

Challenge to question the theory

- With the practice of holistic caring, how can nurses adopt on reality of life that is constantly changing and shifting?
- If the virtue of caring is restricted, how can nurses justify their decisions? How can a decision be based from sound reason and logic?
- What are the ways on co-creating value and meaning with the one being nursed?
- How would the caring experience lead to learning that is congruent to body and soul?

Conclusion

- While this theory of care emerges, we must understand that every individual is whole and complete in the duration of the caring experience and is unique in his perspective of health, and must be treated in accord to his “being human” to arrive at a quality of life in an authentic human health experience. This beat our purpose of creating a frame of mind of what holistic nursing really is, and what it is geared at.



Terimakasih!

References

- Giuffra, M. (2013). Altruism is the heart of our story. *Nursing Outlook*, 61:67–69.
- Ventola, C. L. (2014). Social Media and Health Care Professionals: Benefits, Risks, and Best Practices. *Pharmacy and Therapeutics*, 39(7):491–499.
- Smith, M., Turkel, M., & Wolf, Z. (2012). *Caring in Nursing Classics: An Essential Resource*. Springer Publishing Company: New York.
- Boykin, A., & Schoenhofer, S. (2001). *Nursing as caring: A model for transforming practice*. New York: Jones & Bartlett, National League for Nursing Press.

Inter-professional collaboration in diabetes care in clinical settings

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Back ground

<Research>

- Self-care and psycho-social well-being for people with chronic illness such as diabetes
- Doctoral thesis: self-care and psychological well-being for working adults with diabetes (University of Tokyo)
- Patient education

<Work experience>

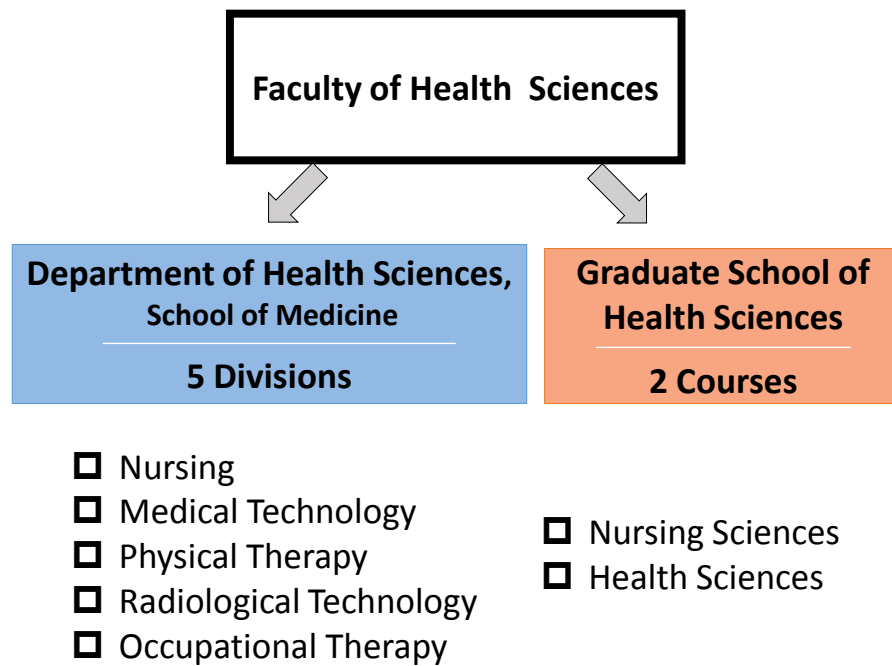
- Working as a nurse for patients with diabetes, cancer and collagen disease
- Department of Fundamental Nursing, Faculty of Health Sciences, Hokkaido University



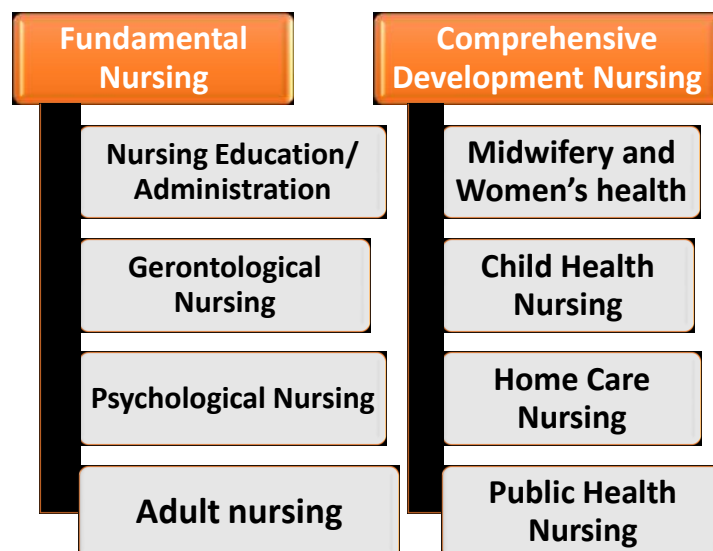
Geospatial Information Authority of Japan,
<http://www.gsi.go.jp/KOKUJYOHO/center.htm>

Campuses





Divisions of Nursing



November 14

World Diabetes Day (WDD)

It is led by the international diabetes federation for purpose of diabetes advocacy and awareness.



The blue circle is
the universal symbol for
diabetes



[By Naoko Shirooka \(撮影:白岡直子\)](#)

Tokyo tower

Numbers of people with diabetes in Japan

| People strongly suspected | 9,500,000 |
|---|-------------------|
| possibility of diabetes cannot be precluded | 11,000,000 |
| Total | 20,500,000 |

Ministry of Health, Labor and welfare, 2012

Percentage of diabetes for age groups (%)

| | | 20's | 30's | 40's | 50's | 60's | Over 70 |
|----------|---|------|------|------|------|------|---------|
| M | People strongly suspected | 0.6 | 1.4 | 5.4 | 12.2 | 20.7 | 23.2 |
| | possibility of diabetes cannot be precluded | 0.5 | 1.8 | 7.2 | 10.2 | 15.5 | 17.7 |
| F | People strongly suspected | 0 | 1.1 | 1.7 | 6.2 | 12.6 | 16.7 |
| | possibility of diabetes cannot be precluded | 0.8 | 3.1 | 7.5 | 12.1 | 17.4 | 20.8 |

Ministry of Health, Labor and welfare, 2012

Diabetes Mellitus

Problems of supplying insulin

Type 1: deficient insulin production

Type 2: the body's ineffective use of insulin



High blood glucose levels



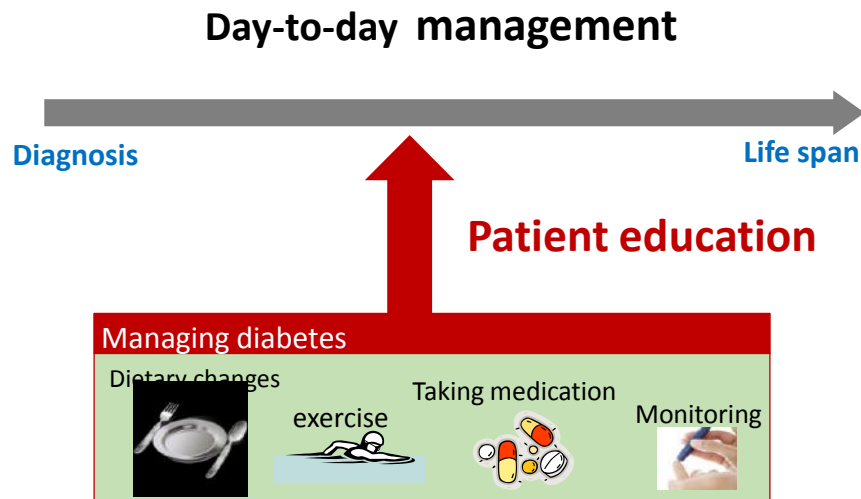
Damaging organ and blood vessel

Complications

◆ Long-term complication

- Kidney
- Eye
- Neuropathy / Foot problems
- Cardiovascular disease
- Gum disease
- Dementia





Some trends in patients education in Japan

- Previously, physicians are more responsible to patient education.
- In 1990s, health professionals are more involved in patient education.
- In 2000, the Certification Board for Diabetes Educators has been established.
- The importance of clinical collaboration is emphasized.

Today's topics

- Patient education by multi-disciplinary team
- The certified diabetes educators of Japan
- Clinical collaboration

Patient education
by multi-disciplinary team

Patient education

Diabetes self-management education (DSME)

“the process of facilitating the knowledge, skill, and ability necessary for diabetes self-care”



(Diabetes Care 2015;38:1372–1382)



Team approach can be particularly effective in providing DSME

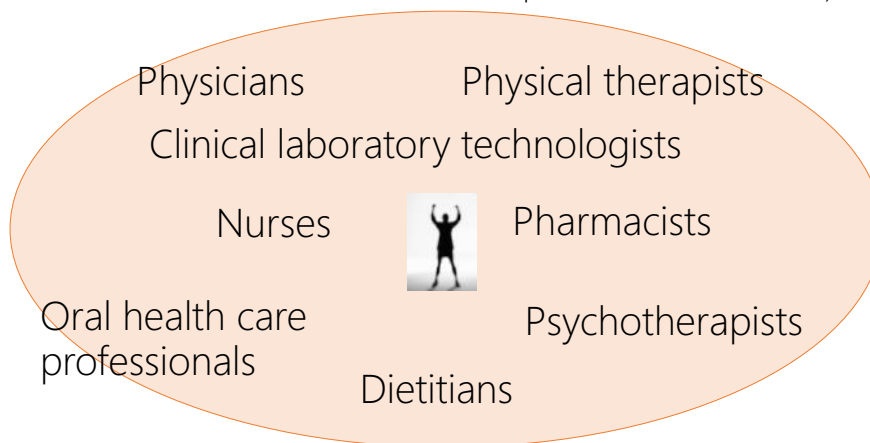
- improve metabolic control,
- self-efficacy
- patient satisfaction

(Zwar et al., 2007; Sadur et al., 1999)

Patient education by multidisciplinary team

The member of multidisciplinary team might vary based on the needs of patients, organizational constraints and resources.

(National Diabetes Education Program, National Institutes of Health.
U.S. Department of Health and Human Services, 2011)



◆ Educational settings

in outpatients settings or inpatients settings

◆ Examples of education content provided *by nurses*

- Foot care
- Prevention and management of diabetes complications
- Self-monitoring
- Initiation and management of Insulin injection or self-monitoring blood glucose
- Life-style counseling
- Coordinating multi-disciplinary conference

Example of inpatient education program

| Monday | Tuesday | Wednesday | Thursday | Friday |
|--------------|-----------------------|-----------------------|------------------|-----------------------|
| Hospitalized | Dental care | Class | Class | Individual counseling |
| | Individual counseling | Individual counseling | Cooking practice | Group discussion |
| Class | Group discussion | Class | Staff conference | Discharged |
| Class | | | | |

- Physician: diabetes, treatment and complication
- Dietitians: how to choose foods, cooking practice
- Physical therapists: how to maintain healthy exercise practices
- Nurses: food care,

Example of inpatient education program

| Monday | Tuesday | Wednesday | Thursday | Friday |
|--------------|------------------------------|------------------------------|------------------|------------------------------|
| Hospitalized | Dental care | Class | Class | Individual counseling |
| | Individual counseling | Individual counseling | Cooking practice | Group discussion |
| Class | Class | Class | Staff conference | Discharged |
| Class | | | | |

- For individual counseling: several health professional, including nurses, dietitians and pharmacists

Example of inpatient education program

| Monday | Tuesday | Wednesday | Thursday | Friday |
|--------------|-----------------------|-----------------------|-------------------------|-----------------------|
| Hospitalized | Dental care | Class | Class | Individual counseling |
| | Individual counseling | Individual counseling | Cooking practice | Group discussion |
| Class | Class | Class | Staff conference | Discharged |
| Class | | | | |

- Share patient information and goals
- Share and clarify the division of roles for each disciplinary
- In many cases, nurses take role to be a coordinator

Patient education by multidisciplinary team in outpatient settings

The government approves additional health insurance payments, focusing on preventing diabetes complication; foot diseases AND renal diseases

Health insurance payments (outpatient) *related to nursing*

| | |
|--------------------|--|
| Initially approved | Focus on management of Insulin injection or life style counseling |
| Recently approved | <ul style="list-style-type: none">• Prevention of foot disease• Prevention of renal disease |

Health insurance payments for prevention of renal disease

- It is approved in 2012
- It purposes on preventing renal diseases for targeting diabetes patients who have high risk
- *Team should be organized by diabetologists, nurses AND dietician* and they provide education and treatment in collaboration
- Patients can access this service once a month

Certified Diabetes Educators in Japan (CDEJ)

Certified Diabetes Educators

Medical professionals who possess wide specialized knowledge on diabetes and they are considered as experts who provide diabetes education

Qualified by “the Japanese certification board for diabetes educator” (not national organization)

<Background>

- Number of diabetologist in Japan: 4,760 (dates for 2013)
- It is not sufficient number to provide high quality of care for all

<Who are candidate?>

- Registered nurses, registered dieticians, pharmacists, clinical laboratory technicians, and physiotherapists

Certified diabetes educators in Japan

<Requirements>

- Require to pass examinations,
- Have worked continuously for at least 2 years in medical facilities, where diabetologist work at.
- have diabetes education experience for at least 1000 hours
- Participate to workshops

<Renewal>

- Renewal of certification every 5 years
- Need to participate in scientific meetings and trainings

The number of CDEJ

| Professionals | Total number |
|---------------------------------|--------------|
| Registered nurses | 8,927 |
| Registered dieticians | 4,527 |
| Pharmacists | 2,855 |
| Clinical laboratory technicians | 1,598 |
| Physiotherapists | 1,007 |

(data of 2015.6.3)

Cited from Certification Board for Diabetes Educators in Japan,
http://www.cdej.gr.jp/modules/cdej/index.php?content_id=4

Collaboration between CDEJ nurses and generalist nurses in hospitals

CDEJ nurse plays a role in

- : helping patients manage diabetes
- : educating the generalist nurses or providing advices to them

Previous studies shows that

- : nurses' knowledge of diabetes management principles of the hospitalized patients was low (Modic et al., 2014)
- : generalist nurses have low level of confident on knowledge and difficulty in practice and they sometimes have negative feelings on diabetes care (Hara & Sato, 2011)

Difficulties in diabetes nursing care: implications for role of certified diabetes educator nurses
Chiharu Hara & Miho

- surveys to 436 generalist

| | |
|------------------------|---|
| Confident of knowledge | Low level of confidence: exercise, diet and medication assessment/education for complication |
| Difficulty in practice | assess effective timing to provide education, metabolic control in pre/post surgery, blood glucose management, physical assessment, share the goals with patients, make them change behaviors in healthier way |
| Feeling | Feel reluctant in caring diabetes patients |

Implication

generalist nurses have various difficulties in providing diabetes care.

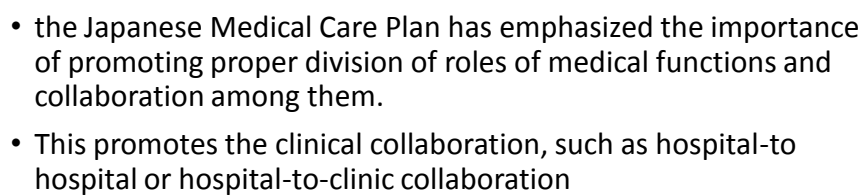


It is important that collaboration between generalist nurses and CDEJ

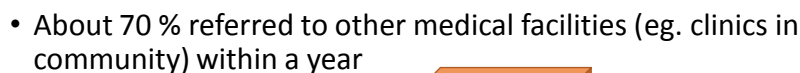
CDEJ will play a role in:

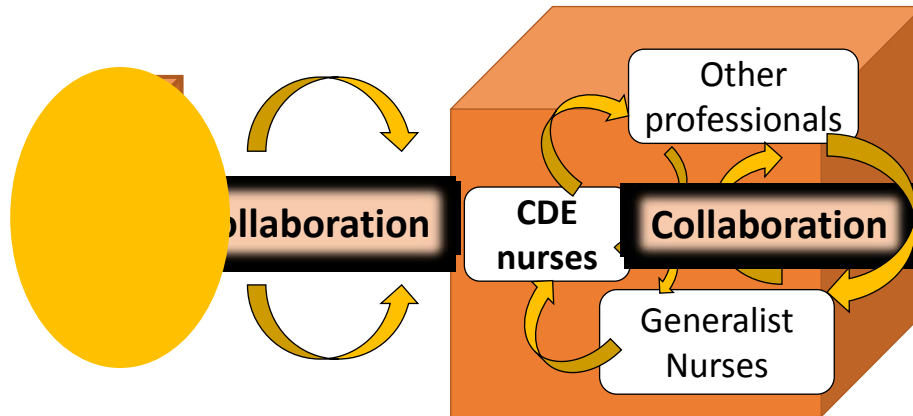
- providing advices
- holding a study session
- becoming a role model

Medical Collaboration



- Having another diseases other than diabetes
ex) surgery: 27 %, treating with steroids: 11%





Thank you for listening

Interprofessional Education (IPE)

3RD JAVA INTERNATIONAL NURSING CONFERENCE
20-21 August 2015

Tri Nur Kristina

Team Collaboration



Patient's Care

Background

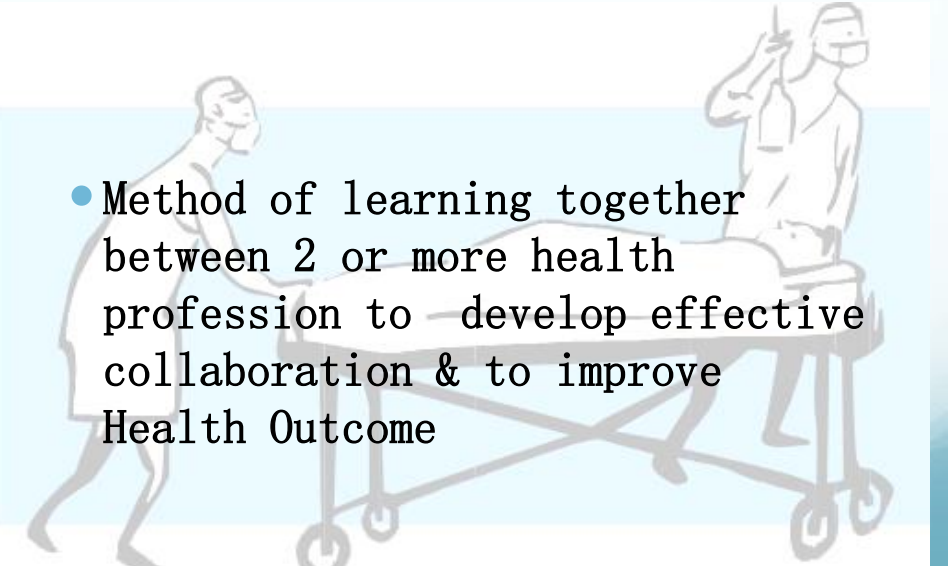
- Health problems should be managed comprehensively & continuesly by involving several health profession.
- Health professional learners need to gain the competencies of collaborative patient-centered care
- Hospitals and other clinical settings must provide the environments for students to receive role modeling of teamwork practices.

Graduate of Health Profession



- Competence
- Be able to collaborate as a member of health team in their workplace

Education (IPE)

- 
- Method of learning together between 2 or more health profession to develop effective collaboration & to improve Health Outcome

IPE

- First, IPE was done to reduce medical error in clinical practices

IPE

- Not only in clinical practices
- Involve health problems in individual, family and community.

AIM OF IPE



- To produce graduate of health profession with competencies (knowledge, skills, professional behaviour) that inline with practices of inter-professional collaboration

IPE

- Early introduced
- Early exposure
- Using several learning methods
- Concept: Simple → Complex

Easy → Difficult

Learning Methods of IPE

- Lecture
- Problem based learning (paper based, Video)
- Community based education (Community Health Centre, Home Visit, etc)
- Integration Clinical rotation of health profession

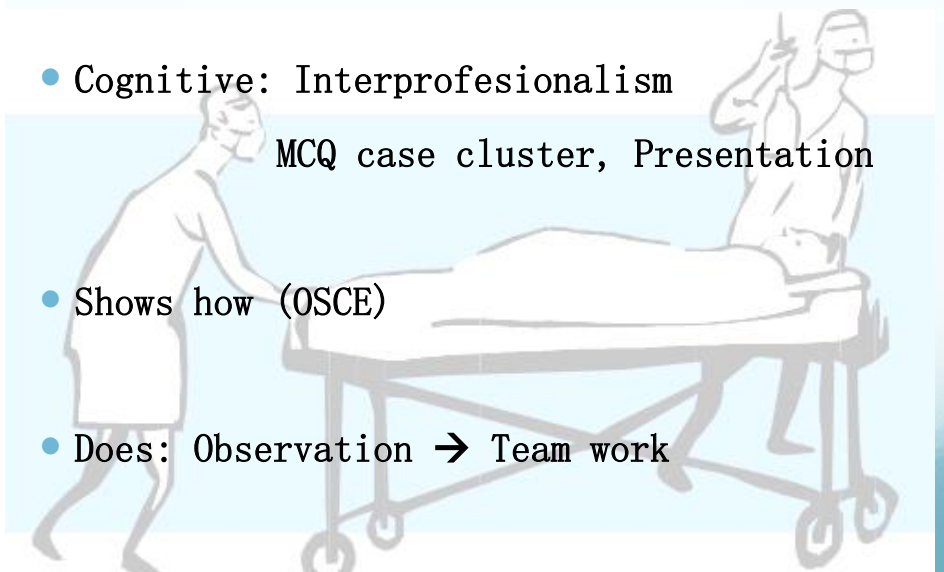
Curriculum IPE

- Who : Students (health study program)
Instructor/ Tutor
- What : Aim, correlation with other curriculum
- Why : Benefit of IPE
- Where: Cless, Discussion room, home visit, CHC, Post Health, Elderly house, Hospital, etc.
- How : Methods, Time, Learning Activities, Student assessment, Program evaluation

→ TIME ALIGNMENT

ASESSMENT

- Cognitive: Interprofesionalism
MCQ case cluster, Presentation
- Shows how (OSCE)
- Does: Observation → Team work



Examples of IPE

- Students from Medicine, Nurse, and Nutrition work together in the recovery ward for 2 weeks under supervision
- Students from Medicine, Nurse, and Nutrition work together in Elderly house to identify problems, choose case, and to manage comprehensively and collaboratively under supervision

RESULT OF IPE

- Experience of independence & autonomy
- Clearly seen several aspects in caring patients
- Change image about other profession
- Learn on how to communicate, collaborate, and become functional team

Give ideal and authentic experiences

EXPECTATION

- Variation of learning methods of IPE will increase authentically experiences
- More ready to the workplace



THANK YOU

The Role of Nursing for the future Genetic and genomic-based nursing care

Sultana MH Faradz
Center for Biomedical Research (Cebior)
Faculty of Medicine Diponegoro University

Semarang, 21 August 2015
3rd Java International Nursing Conference 2015

The Introduction of genetic diagnosis in Indonesia

- **Joe Hin Tjio** (2 November 1919 – 27 November 2001), was an Indonesian-American cytogeneticist renowned as the first person to recognize the normal number of human chromosomes at the lab of Albert Levan (Sweden) in 1956
- Chromosome analysis has already been introduced in the modern country since 1960s
- Molecular detection has been applied in the clinic since **1980s**
- In Indonesia Cytogenetics has been started from Surabaya-Jakarta-Semarang since **1980s**
- Followed by reactivation of Eijkman Institute for the Molecular Biology in Jakarta in **1993**
- Center for Biomedical Research with Genetic Laboratory at Undip was established in **1999**

Genetics in the past

- Chromosomes – units of heredity inside cells – first discovered in the late 1800's.
- 1950's – 1980's – genetic tests for genetic conditions affecting children such as Down syndrome and Duchenne muscular dystroph (Mendelian Inheritance) were developed
- Very few research laboratories capable of conducting genetic testing, and few commercial genetic testing laboratories



Genetics and Genomics in the recent era

- The full human genome sequence was completed in 2003.
- Genetics
 - the study of individual genes and their impact on relatively rare, single gene disorders.
 - The study of inheritance, or the way traits are passed down from one generation to another
- Genomics – the study of all genes in the human genome together, including their interactions with each other, the environment, and the influence of other psychosocial and cultural factors.

Genetic Diagnosis and Laboratory in Indonesia

- Few Expert / human resources
- Few genetic laboratories and genetic clinic
- Expensive Cost/ services
- Less awareness of medical personnel and community
- Opinion that genetic diseases cannot be cured
- Cannot be covered by Health insurance
- Genetic service is not a priority in developing countries such as Indonesia, although contribution of genetic diagnostic provides a lot of advantage for the patients and their family
- Dry job!!!

Personalized Medicine in genomic era



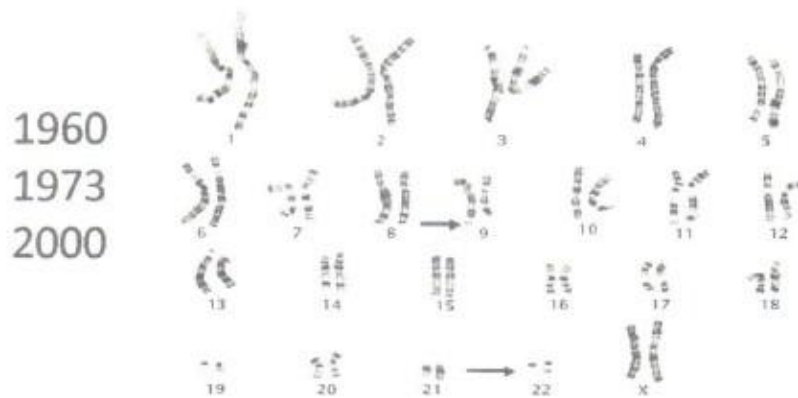
One size does not fit all.

- Pre-genome era: healthcare providers used a "one size fits all" approach to treating individuals, e.g. in TB
- Post-genome era: increasingly healthcare providers will be able to use genomic information to design treatments to the individual, and personalize their care (targeted treatment).



WHY ONE-SIZE-FITS-ALL DOESN'T WORK.

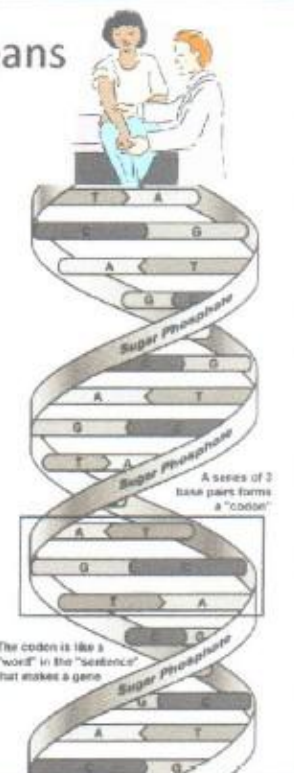
Philadelphia Chromosome Karyotype (bcr/abl translocation) in Leukemia



BCR/ABL gene fusion indicator of good prognosis for targeted treatment. *Imatinib (Gleevec)* Tyrosine Kinase Inhibitor was the first drug to specifically *target* the BCR-ABL tyrosine kinase protein (inhibitor)

Genomic Healthcare: What it Means for Nurses

- Increasing use of genetic and genomic technologies to screen, diagnose and treat rare and common diseases.
- Nurses must be knowledgeable and competent in providing in genetic and genomic-based healthcare.



Essential Nursing Competencies for Genetic and Genomics



1. The importance of genetic and genomic information and services to clients based on their culture, religion, knowledge level, literacy and preferred language.
2. Ethical issues of concern
3. Genetic counseling, Care, and Support
4. Constructs a pedigree from collected family history using standardized symbols and terminology, to draw a minimum of three-generation family history information
5. Collects personal health, and developmental histories that consider genetic, environmental, and genomic influences and risks

Information and services to clients based on their culture, religion, knowledge level, literacy and preferred language

- Baby born with DSD
- Sexual assignment must be done ASAP
- Diagnosis
- Late detection because of:
 - Ignorance,
 - Taboo (sex ambiguous)
 - religion
 - Awareness of Medical personnel
 - Expenses/ not covered by insurance



- Sexual rearing: parent decision/ selfish, culture
- Early adjustment/ operation: who will decide? Parent or child?

Ethical issues of concern

- Informed consent
- Disclosure and confidentiality
- The effect of unauthorized disclosure would harm the patient's privacy
- Keep their dignity



Down Syndrome: Tell about the diagnosis and inheritance



Small mouth
large tongue



Saya orang
Jawa

g eyes

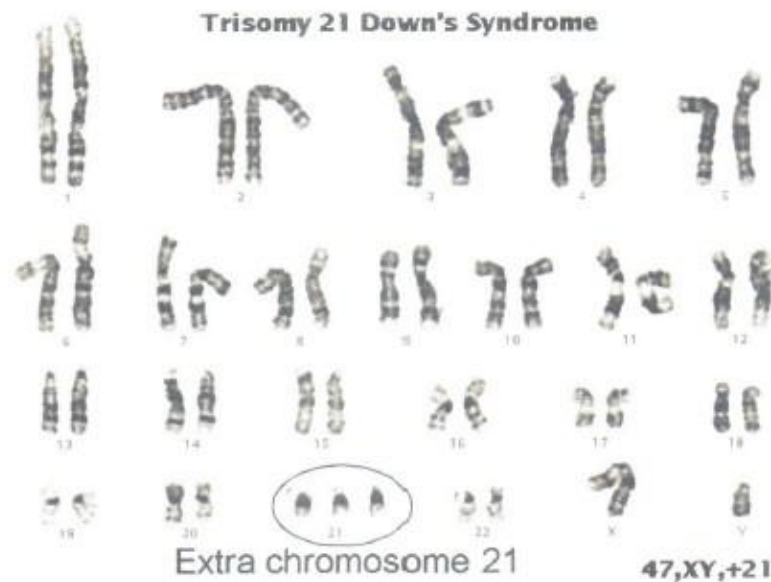
I am
Caucasian

Watashi wa
Nihon jin desu

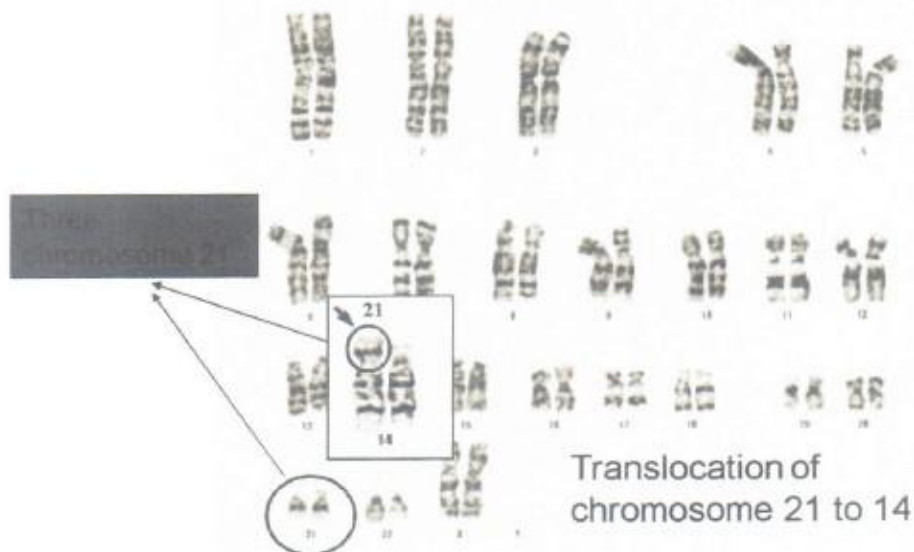


Depressed nasal
bridge

Chromosome abnormality in common Down syndrome



Chromosome abnormality in Possible Inherited Down syndrome= ~5% of cases



Genetic counseling, Care, and Support

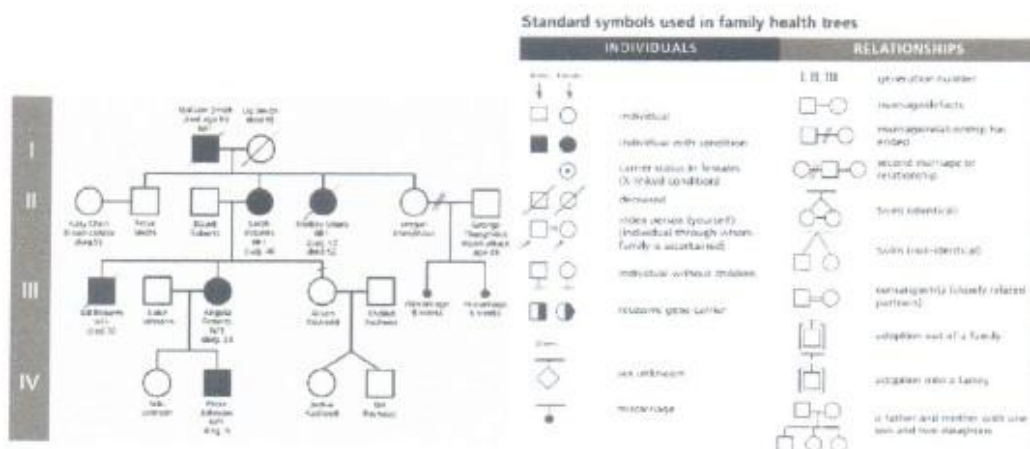
- Providing information and support
 - to families with birth defects or genetic disorders
 - to families may be at risk for having an inherited conditions
- Identify families at risk
- Investigate the development of the disease
- Interpret information about the result of the test
- Analyze inheritance patterns and risks of recurrence
- Review available options



Are you ready with that?

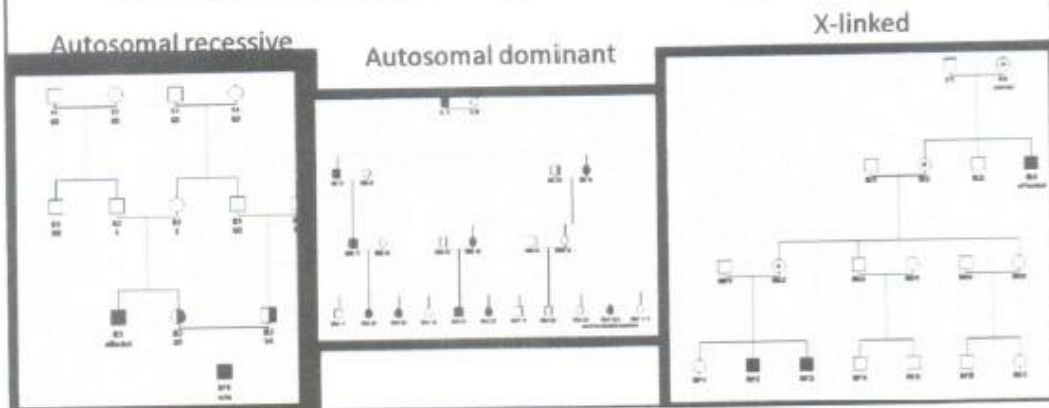
Constructs a pedigree from collected family history

- Pedigree 3 generation

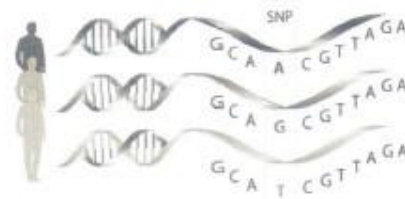


What genetic disease is?

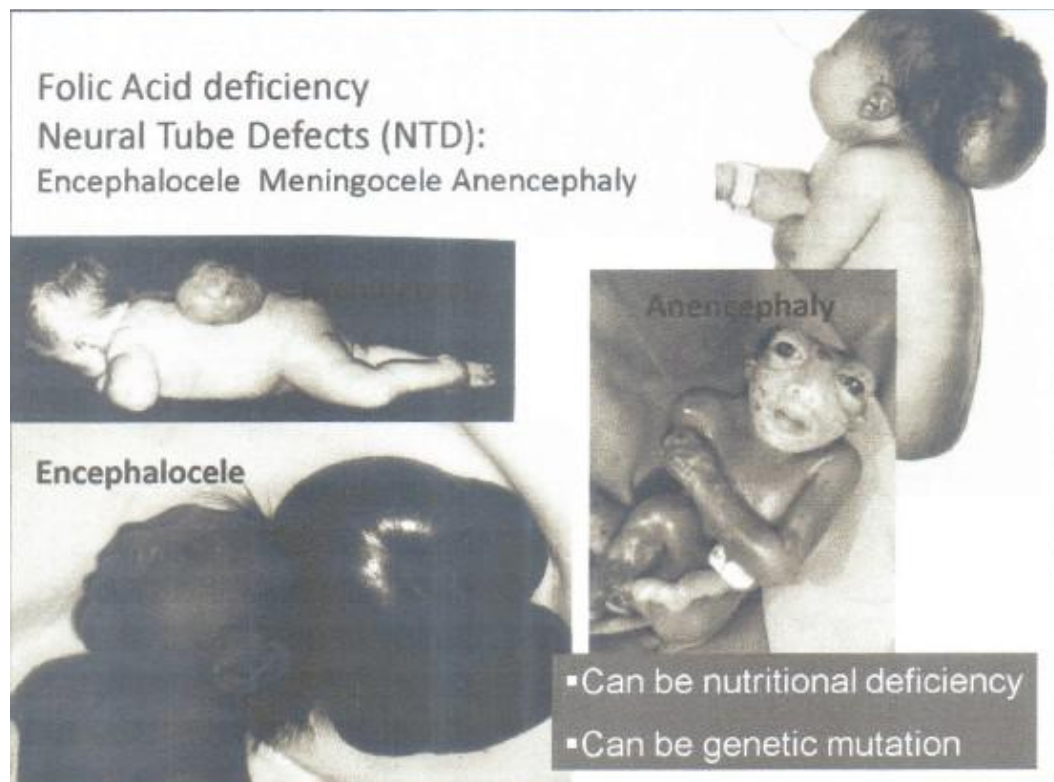
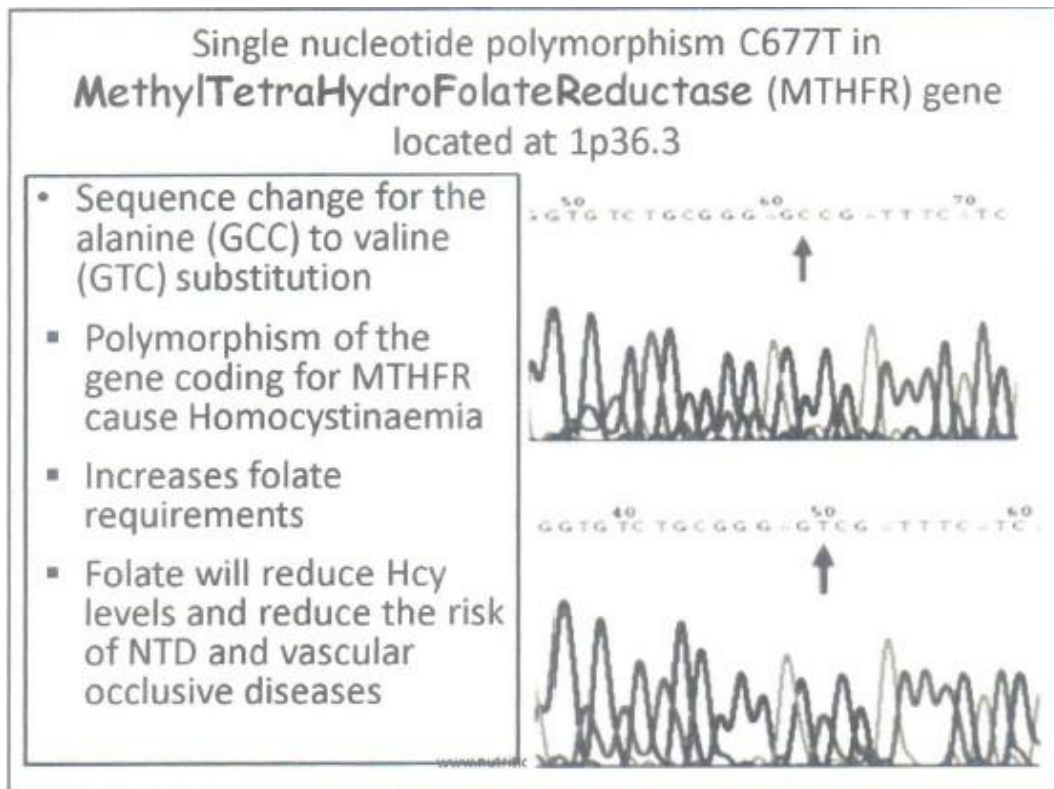
- Usually refers to inherited disease (Mendelian fashion)
- Transferred from one or both parents to one or more of their children because of specific abnormalities (mutations) in their genes.
- Some genetic diseases can be easily detected at birth, but others may take many years to be diagnosed.



Collects personal health, and histories that consider genetic, environmental, and genomic influences and risks

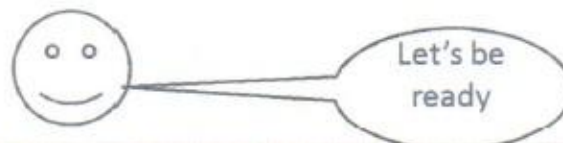


- In multigenic disease, single nucleotide polymorphisms (SNP) may apply a pronounced influence
- Hypospadias
- Cleft palate/ cleft lips
- Neural Tube Defect (anencephaly, encephalocele)

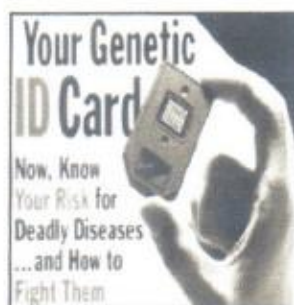


Genetics and Genomics in the future

- Genetic testing will be used to scan all of a person's genetic material, so that disease risk variants can be identified and early intervention and treatment can be planned
- The cost of testing an individual's entire genome will be cheaper and cheaper
- We will live in a time of "personalized medicine," when many treatments for medical conditions will be chosen based upon what genetic testing indicates about a person's specific genetic makeup such as in cancer (Leukemia)



Our Future



>2 million
frequent SNP

Safe Secure Affordable
\$150 KIDSafeDNATM

First, Last Name

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | V | F | D | D | D | D | D | T | T | C | | |
| 3 | W | G | 8 | 2 | 1 | 5 | 1 | 7 | 1 | H | P | S |
| 5 | A | A | 5 | 1 | 8 | 5 | 3 | 5 | 6 | O | O | F |
| 1 | | | 1 | 5 | 5 | 8 | 5 | 8 | 5 | 1 | X | 1 |
| 3 | | | 1 | 1 | 5 | 1 | 3 | 5 | 5 | | | P |
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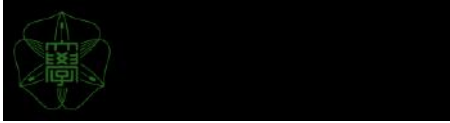
16 17 21 11 29 14 11 8 11 11 6 8 10
16 17 21 13 32.3 18 12 11 12 12 7 8 10

SEX: M
HEIGHT: 3'5"
WEIGHT: 92 lb

ID NUMBER: P450206
BIRTHDATE: 01/25/2000

Bio-Synthesis, Inc. is accredited by the AABB

unique 15 genetic loci DNA profile



Holistic Maternal and Child Care with Midwifery Approach

Makiko Noguchi, Ph.D
Associate Professor
Faculty of Health Sciences, Hokkaido University

Aug 20-21, 2015 3rd Java International Conference 2015

Holistic maternal and child care with midwifery approach

- ✓ **Why midwifery approach is holistic ?**
- ✓ **What is the practical model of midwifery approach for maternal and child care.**



Midwifery approach as holistic care



Obstetrician

Obstetrician have primary responsibility for the care and treatment of pregnant women who have recognized disease or serious complication.

Midwife



Midwife have primary responsibility for the care of women with uncomplicated pregnancies and normal birth.

Medical model

Obstetrician views pregnancy and childbirth as a critical with the pathologies.

Obstetrics focuses on the diagnosis and treatment of pregnancy complications and management of diseases.

Midwifery model

Midwife views pregnancy and childbirth as a critical, vulnerable, but **normal part of women's lives.**

Midwifery focuses on the normal pregnancy and birth, and its potential of health.

Holistic care

Rooks J.P.: The midwifery model of care, Journal of Nurse-midwifery, 44(4), 370-374, 1999.



Key midwifery concepts (ICM, 2013)

- ✓ **Partnership with women** to promote self-care and the health of mothers, infants, and families
- ✓ **Respect for human dignity** and for women as persons with full human rights
- ✓ **Advocacy for women** so that their voices are heard and their health care choices are respected
- ✓ **Cultural sensitivity**, including working with women and health care providers to overcome those cultural practices that harm women and babies
- ✓ **A focus on health promotion and disease prevention** that views pregnancy as a normal life event
- ✓ **Advocacy for normal physiologic labour and birth** to enhance best outcomes for mothers and infants.

International Confederation of Midwives: Essential competencies for basic midwifery practice 2010, Revised 2013



Holistic midwifery care

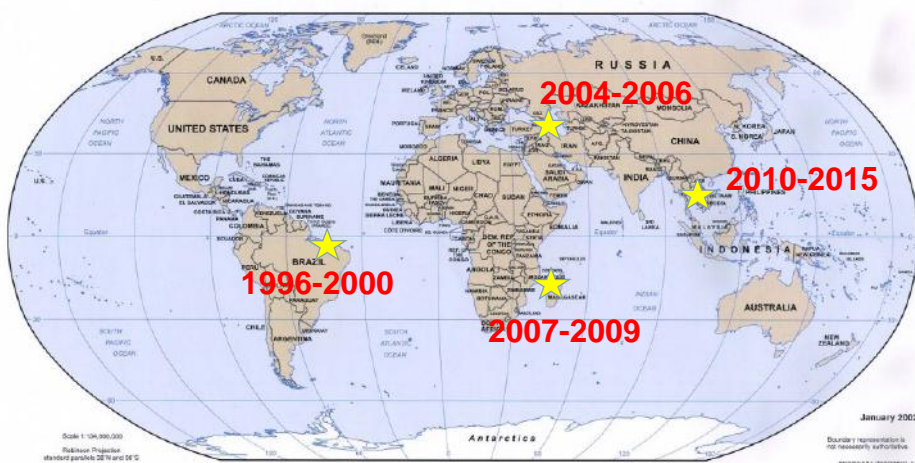
Japanese midwives support women in every possible way to increase the probability of a natural or 'physiological birth'.

**e.g. supportive care, pain relief without medicine
 women-centered care, home-like birth place
 prevention & early detection of abnormal**

Midwifery contributes to improving maternal and child health globally



Japan's official development assistance (ODA) MCH projects utilizing Japanese midwifery



A practical model of midwifery approach

A midwifery project in Cambodia



JICA Project for Improving Maternal and Newborn Care through Midwifery Capacity Development 2010~2015



The project sites
**Kampong Cham
Province**



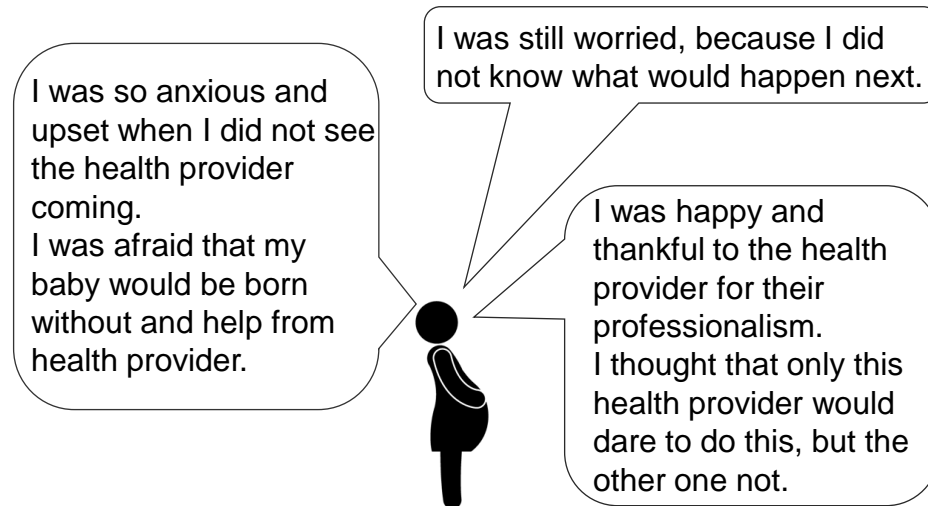
Phnom penhn



The purpose of the project is not only increasing the number of midwives in Cambodia, but also **to improve the quality of delivery.**



Baseline survey In-depth interview for women experienced hospital birth



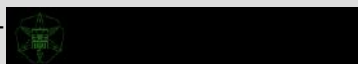
Baseline survey on Evidence-based Midwifery Care in Cambodia (NMCHC & JICA MANACA project, 2012)



The results of a baseline surveys in Cambodia Two main issues have found to provide quality of midwifery care



JICA MANACA Project: Baseline survey on evidence-based midwifery care in Cambodia



JICA Project for Improving Maternal and Newborn Care through Midwifery Capacity Development 2010-2015

Promote women-friendly care using evidence

Establish midwifery training system to improve maternal and child health



Training course for midwives



Guide to Individualized
Midwifery Care for Normal
Pregnancy and Birth



End-line survey

14

The aim of the end-line survey is **to describe the outcomes of the training program** from the perception of the care providers and women after the childbirth at the project sites.

Questionnaire surveys

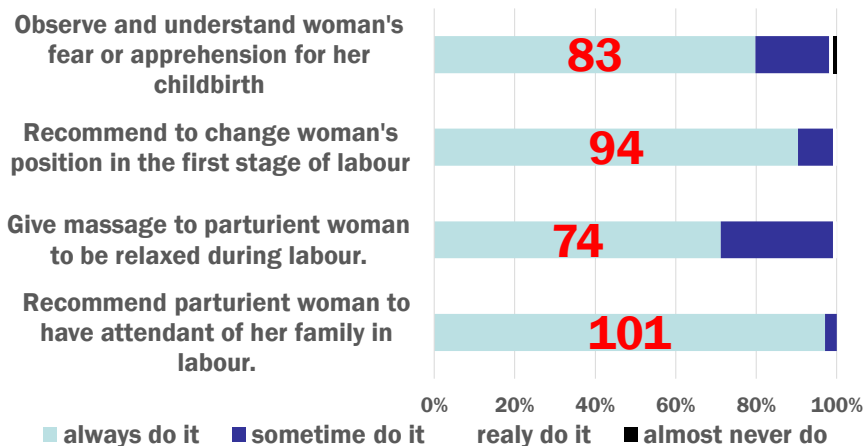
- : for **women** who give birth at the project sites
- : for **midwives** who are working the project sites
- ✓ The project sites are 4 primary hospitals, a secondary hospital and a tertiary hospital of obstetrics.





End-line survey to midwives

Practices which are demonstrably useful (n=104)

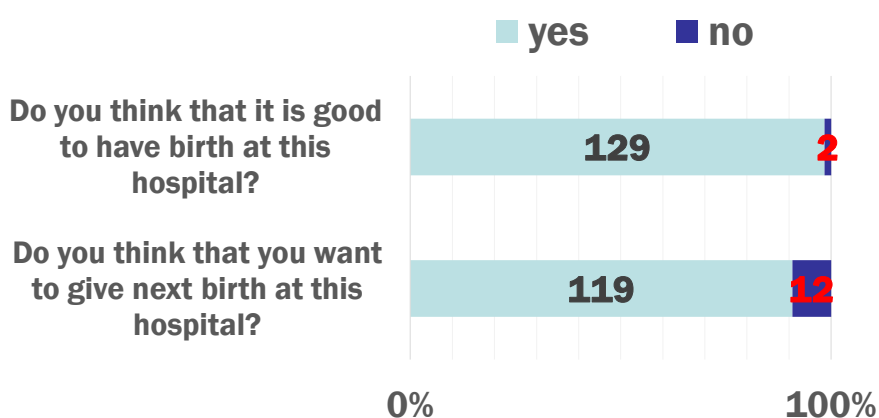


Most midwives do evidence based midwifery practice.



End-line survey to women

Women's satisfaction about their childbirth (n=131)

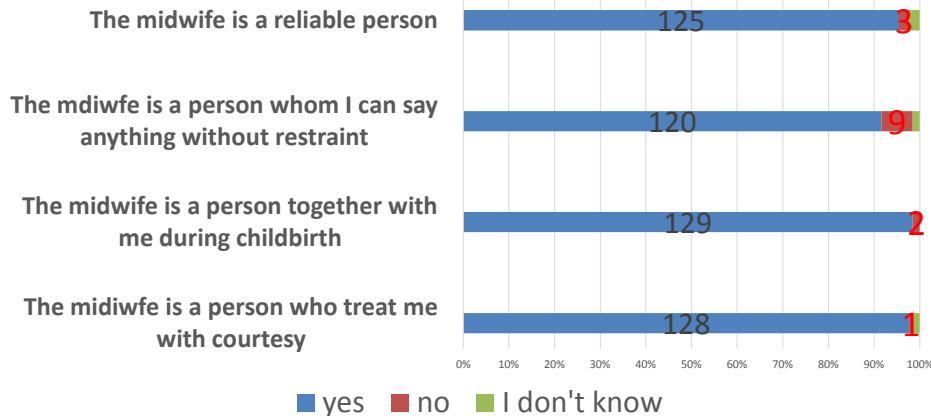


Most women were satisfied with their hospital birth.



End-line survey

The women's perception about the midwife (n=131)



Most women had good perceptions about the midwives.

Outcome of the project



Manualized Practice



Women-friendly Individualized care

A midwife have good communication with women to get her information.

And a midwife assess the woman's holistic condition to organize and practice midwifery care using evidence.

During this midwifery process, a midwife contact women for dignity.



WHO statement (2014)

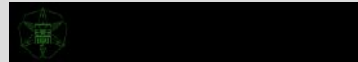
Many women across the globe experience disrespectful, abusive or neglectful treatment during childbirth in facilities.

The prevention and elimination of disrespect and abuse during facility-based childbirth

Every woman has the right to the highest attainable standard of health which includes the right to dignified, respectful care.



http://apps.who.int/iris/bitstream/10665/134588/1/WHO_RHR_14.23_eng.pdf?ua=1&ua=1



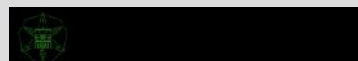
Midwife-led versus other models of care for childbearing women (Sandall J et al., 2013)

Midwife-led care confers benefits for pregnant women and their babies and is recommended.

Most women should be offered midwife-led models of care and women should be encouraged to ask for this option although caution should be exercised in applying this advice to women with substantial medical or obstetric complications.



<http://apps.who.int/rhl/reviews/CD004667.pdf>



Midwifery approach is essential to improving maternal and child health.

High quality midwifery care should be offered to all women and children.

Forthcoming challenges

The best way to establish midwifery philosophy and care integrate with obstetric knowledge and skills must be found.



IMPLEMENTATION OF HOLISTIC NURSING IN LEADERSHIP AND MANAGEMENT

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“Educating with heart, working with love”

OUTLINE

- * Relationship between management and leadership
- * Evolution of leadership theory
- * Holistic leadership theory
- * Impacts holistic leadership
- * Applications in levels of functions (individual, team, and organization)
- * Conclusion



ARE YOU INTERESTED IN?



Management & Leadership



How is your feeling in your institution?



How Healthy is
Your
Organization?



Performances



Organization goals

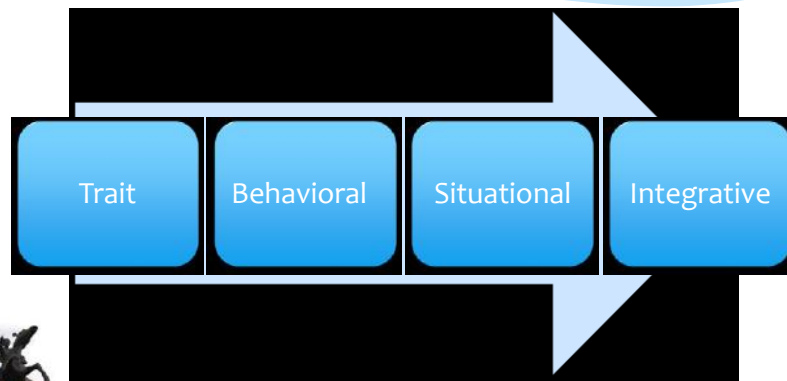


LEADERSHIP THEORIES

- * Trait theories → personal characteristics of leaders
- * Behavioral & style theories → specific behavior of leaders
- * Situational & contingency theories → no single "best" style of leadership
- * Integrative theories → integrate the older theories



EVOLUTION OF LEADERSHIP THEORIES



STARTING POINT MODELS

- * Charismatic leader VS Transformational leadership
- * Servant leadership → equality of all participants
 - * Controlling by empowerment
- * Authentic leadership
 - * Focus on leaders' value system and its role in establishing self awareness, integrity, compassion, interconnectedness, and self-discipline



HOLISTIC LEADERSHIP

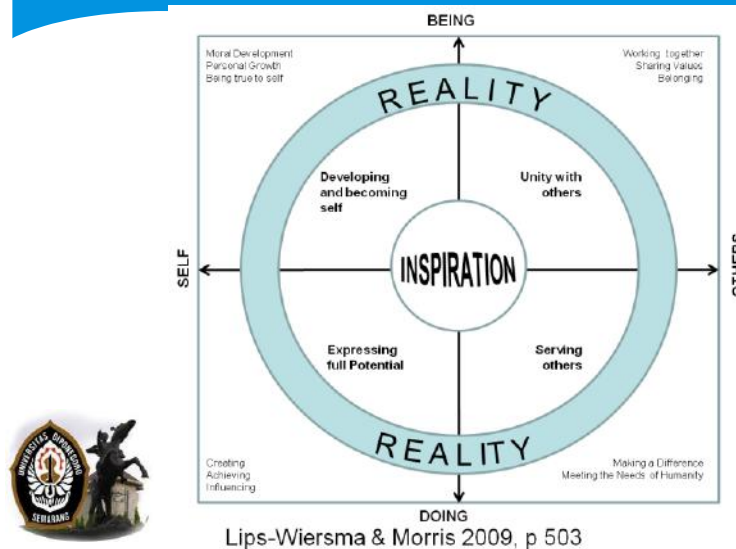
- * Holistic leadership is a method focusing on systemic development that facilitate transformation at three levels i.e. the individual, the team, and the organization (Orlov, 2003).
- * Successful leadership does not lay on the unit analysis as the leader, the follower, the circumstance, or the relationship but a holistic system of development (Best, 2011).



PRODUCING OPTIMAL OUTCOME

- * Team-based work → capitalizes the collective strengths and redistributing weakness team members
- * Interdependence of team members → produces psychological safety for team members
- * Transformational leadership → facilitating team learning behavior and orientation (Burke, Stagl, Salas, Pierce & Kendall, 2006)
- * Transformational leadership
 - * + creative self-efficacy → Job performance improvement
 - * + social exchange theory → increase trust and loyalty to leaders
- * Transformational leadership (Gong, Huang & Farh, 2009)
- * Integrative models → engage participants by inspiring trust the value of the leadership unit → a commitment to the welfare of the individuals. (Best, 2011)

HOLISTIC LEADERSHIP MODEL



Holistic Development

- * System-oriented and recognize the “person-in-environment” as the system state.
- * Contextualized in three dimensions that associate person and environment: the bio-physical, the psychosocial, and the sociocultural.
(Wapner & Demick, 2003)
- * Holistic system are interactionistic involving adaptation process, transformation, synchronization, and coordination all elements (Magnusson, 2001)



Transforming Individual

- * **Personal mastery** → “the discipline of personal growth and learning” through:
 - * **Empowerment by motivating individuals**
 - * To share in decision-making process
 - * Having open communication channels
 - * Establishing a culture of trust and respect
 - * Allocating authority to make decisions, risk taking, and experience learning
 - * **Ethical growth**
 - * as role model and guides to their followers

(Orlov, 2003)



TRANSFORMING TEAM

- * **Superman vs super team**
- * **A developmental process through:**
 - * Communication
 - * Shared vision
 - * High team performance
 - * Team learning

(Orlov, 2003)



TRANSFORMING ORGANIZATION

- * Holistic leaders consistently creating a culture of:
 - * Openness
 - * Trust
 - * Respect
 - * Participation
 - * Empowerment
 - * Growth
- * Becoming **A LEARNING ORGANIZATION** that learn faster than their competitor → **EXPANDED GLOBALLY**

(Orlov, 2003)



CONCLUSION

- * Holistic nursing is relevant in holistic leadership by nurturing all elements of organization through growths and developments



ASSESSMENT OF PROFESSIONAL BEHAVIOUR ON NURSING STUDENTS

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INTRODUCTION

Nowadays Holistic Nursing becomes a trend issue in the nursing world, and be a main discussion among nurses. According to American Holistic Nurses' Association (AHNA, 1998), the holistic nursing is defined as "all nursing practice that has healing the whole person as its goal". Holistic nursing can be practiced in any setting; it can be in the hospital, in the community, in the private practice, and in the campus. This practice involves all aspects of human and connects the body, mind, emotion, spirit, social/cultural, relationship, context, and environment. Furthermore Thornton (2008) said that holistic nursing is a way of being, a way of living, and a way of practice.

While holistic nurse is a person who conducted the practice of holistic nursing, and acts as an instrument healing and facilitator in the healing process. Being a holistic nurse must integrate self care, self responsibility, spirituality, and reflection in their daily living, so a holistic nurse may more aware and more concern on the relationship among self, others, nature, and spirit (Thornton, 2008).

Professional behaviour (PB) becomes an important part of implementation of holistic nursing since it supports the students to be a holistic nurse. An effective communication, team work, and professional are example of competences of PB (Van Tartwijk & Driessen, 2009) which will help students making relationship among self, others, nature, and spirit. Patients which are more knowledgeable and need comfort during treatment encourage nurses to perform a better PB. Speth-Lemmens (2009) referred PB to the professionalism and professional attitude

which can be supervised, taught, and evaluated. Besides that, PB contributes to the domain of professional activities instead of psychomotor and cognition.

However, complaint rose about nurses' PB. Boediman (2005) said that nurses were no response, grumpy, less friendly, and unclear in giving direction. Furthermore, Anjaryani (2009) stated that nurses were no response since fewer amounts of nurses and double job. Survey showed that patient want a nurse to act friendly, be interesting, be responsive to students, communicate effectively, and be professional. In order to do that, health education institution has responsibility to increase the competencies of PB.

Conducting assessment is important to make sure that student achieves competency of PB instead of introducing it during learning process. Mostly, assessment is conducted subjectively depend on the teacher or clinical instructor. So that, it needs method which is more objective and tool that is reliable and valid. However single method is not sufficient (Van Mook, et.al, 2009b).

This paper is going to discuss about the implementation of assessment of professional behaviour on nursing students. The discussion is divided into three parts, namely assessment method, assessment tool, and the implementation itself.

METHOD

Multi Source Feedback (MSF) is chosen as a method to assess PB of nursing students. This method is feasible to assess nursing students since it is comprehensive and objective. MSF provides both numerical and narrative feedback, and involves many sources in giving feedback (Asmara, 2013). Medical students were assessed using MSF formerly. Most of them stated that MSF is an effective method to assess PB. Doctor who is lack of self confident will be assisted by MSF (Davis & Archer, 2005). Furthermore, communication with patients and colleagues is developed. The same idea came from Epstein (2007) that MSF becomes an effective assessment since it involves narrative comments as well as statistical data.

MSF can be applied on both formative and summative assessment (Davis, et. al, 2009). It depends on the aims of assessment. Assessment conducting during learning process and focusing on evaluation of student's performance is called formative assessment. It serves feedback that can be used by students to modify their learning plan to achieve the competencies. On the other hand summative assessment is used to grade students in the end of the learning process by serving the score which decides whether students achieve the competency or not and whether the students pass the program or fail (Van Mook, et.al, 2009b). Ideally, the feedback gathering from both formative and summative assessments comes from various sources, such as nurses, doctors, patients, and students. The same idea also came from Lynch, et.al (2004) in Hodges, et.al (2011) that invite many assessors applied in multi sources feedback, cognitive assessment, and patient questionnaires is better method in assessing students' PB.

MSF which is applied in school of nursing Diponegoro University is both formative and summative assessment, and involves many sources, such as self, peer, and teacher or clinical instructor. Perfectly, patient is involved as well as students and teacher, however it becomes difficult since length of stay of patient is different depend on the severity. For example: patient in postpartum ward only spends 3 days maximum in the ward while patient in medical ward has length of stay longer than it (Asmara, 2013a).

TOOLS

Shieffield Peer Review Assessment (SPRAT) is used as a tool during the assessment. Acher (2008) stated that SPRAT was developed to assess the achievement of competencies in clinical setting. It contains 24 questions assessing three domains of competencies, namely cognitive, affective, and psychomotor. Even though SPRAT can be applied as a tool during MSF assessment, it needs to be clarified the aims of using SPRAT (Acher, 2008).

Asmara (2013a; 2013b) in previous study explained that SPRAT can be used to assess students both in clinical and community setting. However it needs modification particularly in the domain of assessment. It is focused on one

domain of assessment, namely affective domain. So, the numbers of questions are 4, 5, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, and 24. Furthermore, Asmara (2013a) stated that MSF can be used as assessment method in clinical setting since it involves more than one assessor. However several questions must be added such as: critical thinking, students' performance, politeness. Another study stated that MSF also can be applied in community setting. As well as application in clinical setting, it needs to be added several questions, such as: critical thinking, caring, and respecting (Asmara, 2013b).

In order to make modification of SPRAT is reliable and valid as a tool, validity and reliability test has to be done (Dharma, 2011). Asmara (2014) conducted validity and reliability test resulting 23 questions were valid and reliable. Table 1 shows the form of modification SPRAT.

Table 1 Form of Modification SPRAT

Form is divided into two parts:

1. Part A: assessment with numeric scale 1-6 (1: very poor, 2: poor, 3: need development, 4: satisfactory, 5: good, 6: very good)
2. Part B: assessment with narrative scale.

| No | Questions | Explanation | Score | | | | | |
|--------|--|---|-------|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| Part A | | | | | | | | |
| 1. | Self awareness of their own limitation | Ability to recognize the limitation which is needed to be improved. | | | | | | |
| 2. | Ability to respond to psychosocial aspect of illness | Ability to assess, to define the problem, to plan the intervention, to implement, and to evaluate the psychosocial aspect of patient. | | | | | | |
| 3. | Ability to manage time effectively/priorities | Ability in self management particularly in time and priority. | | | | | | |
| 4. | Ability to deal with | Ability to identify and | | | | | | |

| No | Questions | Explanation | Score | | | | | |
|-----|---|---|-------|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| | stress | respond with stress or problem. | | | | | | |
| 5. | Commitment to learning | Ability to commit with learning process. | | | | | | |
| 6. | Willingness and effectiveness when teaching/learning colleagues | Ability to identify learning need and to learn in a group in order to take the benefit from the learning process. | | | | | | |
| 7. | Ability to give feedback (private, honest, and supportive) | Ability to give feedback which is useful for others. | | | | | | |
| 8. | Communication with patient | Ability to conduct assertive and therapeutic communication with patient. | | | | | | |
| 9. | Communication with family | Ability to conduct assertive and therapeutic communication with family. | | | | | | |
| 10. | Respect to patient and their right to confidentiality | Ability to keep the information of patient, and only use it for patient needs. | | | | | | |
| 11. | Verbal communication with colleagues | Ability to conduct verbal communication with colleagues, ex: conference | | | | | | |
| 12. | Written communication with colleagues | Ability to conduct written communication with colleagues, ex: nursing documentation | | | | | | |
| 13. | Ability to recognise and value the contribution of other | Ability to identify and respect patient's value. | | | | | | |
| 14. | Accessibility | Readiness to help | | | | | | |

| No | Questions | Explanation | Score | | | | | |
|-----|-------------------------------|--|-------|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| | | patient when needed. | | | | | | |
| 15. | Leadership skill | Ability to manage a group; has experience as a group leader. | | | | | | |
| 16. | Management skill | Ability to manage something. | | | | | | |
| 17. | Critical thinking | Ability to solve a problem using research process. | | | | | | |
| 18. | Students' performance | Student's performance is clean, interesting, and tidy. | | | | | | |
| 19. | Politeness | Student shows politeness, respect to others. | | | | | | |
| 20. | Respective to positive aspect | Ability to identify and respect to positive aspect of self and others. | | | | | | |
| 21. | Caring | Ability to care with patient, peer, and colleagues; beside the patient physically and psychologically. | | | | | | |
| 22. | Discipline | Student comes according to the shift schedule and collects the report on time. | | | | | | |
| 23. | Honest | Students tell the truth, and keep information of patients. | | | | | | |

Part B

Give feedback about professional behaviour

IMPLEMENTATION

Both formative and summative assessments in clinical setting have been done during the implementation of MSF in school of nursing Diponegoro University. Students have 4 weeks joining the internship in a ward. Formative assessment is conducted in week 1 of internship while summative assessment is implemented in week 4 of internship. Then, it was evaluated the differences of MSF score between week 1 and week 4. During the internship, students got feedback based on the MSF result.

Sources which were involved are self, peer, and clinical instructor. The source gave score and feedback using modification of SPRAT containing 23 questions and 2 types of feedback, namely numeric and narrative feedback. Then, the score were calculated which minimum score were 23 and maximum score was 138.

Asmara (2015) stated on the study that there was differences of score between week 1 (pre internship) and week 4 (post internship). Score of post internship was higher than pre internship, and the result of dependent t test showed that MSF was an effective method to assess PB on nursing students.

Self assessment as a part of MSF method has important role since students were given the responsibility to evaluate their performance on PB. However it needs control to make self assessment effective by involving outer parties such as peer and teacher. Van Mook, et.al (2009) said that other methods of assessment must be triangulated with self assessment. In spite of the drawbacks, self assessment will help students to increase their sensitivity in reflection, particularly self reflection to solve the problem faced and to plan the learning process.

The second type of assessment on MSF is peer assessment. Peer assessment can be conducted if the assessor is in one level with student. Van Mook, et al (2009) stated that students agreed that peer assessment on PB was acceptable as long as it reflected students' performance. Using peer assessment, students will get positive feedback which will help them to increase their PB.

The last source is teacher or clinical instructor. It needs to distinguish the roles between teacher and assessor particularly on summative assessment (Van Mook, et.al, 2009b). Problem such as: halo and horn will arise when teacher is difficult to distinguish the roles. Halo effect occurs when the examiner is influenced to give a good score in other competences as she has noticed that the student shows good performance in one competence. On the other hand, horn effect emerges when a negative impression on students' competence affects on giving low marks to other competences (Van Mook, et.al, 2009a; Wood, et.al. 2006). Instead of distinguishing the roles, a rubric will help teacher to assess objectively. Rubric will facilitate assessor to get a clear explanation of each questions.

All by all, MSF is an effective method to assess PB of nursing student. Since it is a new method, it needs development related to the method itself, the tools, and the implementation.

REFERENCES

- American Holistic Nurses' Association (AHNA). (1998). Description of holistic nursing. cited in <http://www.ahna.org/About-Us/What-is-Holistic-Nursing>. 10 August 2015.
- Anjaryani, W.D. (2009). Kepuasan pasien rawat inap terhadap layanan perawat di RSUD Tugurejo. (Tesis tidak dipublikasikan). Semarang: Universitas Diponegoro, Indonesia.
- Archer, J. (2008). The Educational Impact of the Sheffield Peer Review Assessment Instrument (SPRAT). Thesis Dissertation. Shieffield: University of Shieffield: UK.
- Asmara, F.Y. (2013a). The Implementation of Multi Source Feedback (MSF) to assess Professional Behaviour (PB) of nursing students in clinical setting. [Unpublished master thesis]. Maastricht: Maastricht University, The Netherland.
- Asmara, F.Y. (2013b). Implementasi Multi Source Feedback (MSF) untuk mengevaluasi Professional Behaviour (PB) mahasiswa keperawatan berbasis keperawatan komunitas. Jurnal Keperawatan Soedirman: 9(2): 108-122.
- Asmara, F.Y. (2014). Uji validitas dan reliabilitas instrumen penilaian professional behaviour mahasiswa keperawatan . Jurnal Ners: submitted.
- Asmara, F.Y. (2015). Efektivitas multi source feedback (MSF) sebagai metode evaluasi professional behaviour (PB) mahasiswa keperawatan. Unpublished. Semarang: Universitas Diponegoro.

- Boediman, A.H. (2005). Analisis faktor-faktor kompetensi interpersonal perawat yang memprediksi terjadinya keluhan pasien terhadap pelayanan perawat di ruang rawat inap RS Telogorejo. (Tesis tidak dipublikasikan). Semarang: Universitas Diponegoro, Indonesia.
- Davies, H. & Archer, J.(2005). Multi source feedback: development and practical aspects. *The Clinical Teacher* 2 (2): 77-81.
- Davis, M.H., Ponamperuma, G.G. & Wall, D. (2009). Workplace-based assessment. In: Dent, J.A & Harden, R.M. (eds). *A practical guide for medical teachers*. Edinburgh: Elsevier Limited.
- Dharma, K., K. (2011). *Metodologi penelitian keperawatan: Panduan melaksanakan dan menerapkan hasil penelitian*. Jakarta: Trans Info Media.
- Epstein, R. M. (2007). Assessment in medical education. *N Engl J Med*, 356(4): 387-396.
- Hodges, B. D., Ginsburg, S., Cruess, R., Delport, R., Hafferty, F., HO, M.-J., Holmboe, E., Holtman, M., Ohbu, S., Rees, C., Ten Cate, O., Tsugawa, Y., Van Mook, W., Wass, V., Wilkinson, T. & Wade, W. (2011). Assessment of professionalism: Recommendations from the Ottawa 2010 Conference. *Medical Teacher*, 33, 354-363.
- Speth-Lemmens, I. (2007). Assessing professional behaviour of students in preclinical and clinical setting [Unpublished master thesis]. Maastricht: University of Maastricht, The Netherlands.
- Thornton, L. (2008). *Holistic nursing: A way of being, a way of living, a way of practice*. Cited in http://www.nсна.org/Portals/0/Skins/NSNA/pdf/Imprint_Jan08_Feat_Holistic.pdf. 10 August 2015
- Van Mook, W. N. K. A., Van Luijk, S. J., O'Sullivan, H., Wass, V., Schuwirth, L. W., Van der Vleuten, C. P. M. (2009a). General consideration regarding assessment of professional behaviour. *European Journal of Internal Medicine*, 20: e90-e95.
- Van Mook, W.N.K.A., Gorter, S.L., Van Luijk, S.J., O'Sullivan, H., Wass, V., Schuwirth, L. W., Van der Vleuten, C. P. M. (2009b). Approaches to professional behaviour assessment: Tools in the professionalism tool box. *European Journal of Internal Medicine*, 20: e153-e157.
- Van Tartwijk, J. van & Driessen, E. W. (2009). Portfolios for assessment and learning: AMEE guide no. 45 *Medical Teacher*. 31: 790-801.
- Wood, L., Hassel, A., Whitehouse, A., Bullock, A., Wall, D. (2006). A literature review of multi-source feedback systems within and without health services, leading to 10 tips for their successful design. *Medical Teacher*, 28 (7): e185-e191.

A 3D illustration of a globe wrapped in a ribbon of various national flags, including the Swiss flag, set against a background of a colorful, ornate pyramid. The globe is positioned in the foreground, with the ribbon spiraling around it. The flags visible include the Swiss flag (red with a white cross), the Japanese flag (white with a red circle), the Norwegian flag (red, white, and blue), the Greek flag (blue and white stripes), the Turkish flag (red with a white crescent and star), the Jordanian flag (black, white, and green with a red triangle), the Honduran flag (blue, white, and red with two green stars), and the flag of North Macedonia (red with a golden sun). The background features a large, ornate pyramid with intricate carvings and a colorful, patterned surface. The pyramid is set against a solid orange background. The overall composition is vibrant and celebratory, symbolizing global unity and diversity.

DAY 1

20TH August 2015

20TH August 2015

THE LIVED EXPERIENCES OF FACULTY CARING BY THE NURSING FACULTY AND STUDENTS IN A PROBLEM BASED LEARNING ENVIRONMENT AT ST PAUL UNIVERSITY PHILIPPINES

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St. Paul University Philippines

ABSTRACT

Background: *Developing faculty caring behaviors in the academic setting is a challenging experience for both faculty & students. In order to recognize the significant implications of a learning experience grounded from a caring framework, the nursing faculty and students must have a clear grasp on how caring transpires within tutorial sessions in the study of nursing using problem based learning pedagogy.*

Objective: *The purpose of the study was to uncover the lived experiences of faculty caring between faculty and students during problem based learning tutorial sessions. Examining lived experiences of faculty caring in a problem-based learning environment provided perspectives that can be lived and valued by nursing as a discipline and profession. Knowledge of nursing based on lived experiences of faculty caring provided a more effective problem-based learning praxis.*

Methods : *Using Van Manen's (1990) hermeneutic phenomenology lived experiences of faculty caring were revealed through analysis of interviews to answer the research question "what are the lived experiences of faculty caring between nursing faculty & students in a problem-based learning environment? The lived experience of faculty caring phenomenon has meaning for nursing faculty and nursing students as they utilize the PBL pedagogy but is not sufficiently studied in the discipline of nursing. This hermeneutic phenomenological qualitative study is designed to understand the lived experience of faculty caring within the context of the nursing faculty and nursing student relationship during PBL tutorial sessions. This approach provided knowledge base to gain deeper understanding of faculty caring that can be used to teaching learning nursing using PBL approach. Eighteen (18) full time tenured nursing faculty and forty (40) full time BSN nursing students participated in the study by means of in-depth interviews describing the meaning of faculty caring within a nursing faculty-nursing student relationship in PBL praxis.*

Results: *The uncovered lived meaning of faculty caring behaviors as a distinct phenomenon included seven caring themes that illuminated the experience. Roach's caring attributes and Jean Watson's Transpersonal Caring Relationship were used as framework to reflect upon the findings. Seven (7) caring themes emerged from the study: **presence, concern, commitment, competence, conscience and guidance.** Sub - themes from the seven caring themes were also known. "**Showing compassion and giving advice**" (guidance) were dominant faculty caring behaviors. "**Being available, (presence) giving advice (guidance) and showing concern**" were interpreted as important faculty caring behaviors according to nursing students that a nursing faculty should manifest during PBL tutorial sessions.*

Conclusion: *The concept of caring which is uniquely known and expressed in nursing should be explored and further studied to provide an organizing framework for studying caring in nursing education, practice and research. Nursing administrators must provide learning opportunities to enhance faculty and students caring relationships in nursing education. Caring is translated by the nursing faculty to nursing students who emulate caring behaviors manifested in a faculty-student relationship that is empowering and transforming. Faculty caring behaviors demonstrated by the nursing faculty foster growth and empowerment to those whom care is given. Future research should explore innovative ways and programs to continue empowering nursing faculty and students to utilize PBL tutorial occasions as caring moments.*

Keywords: *faculty caring, nursing, caring, problem based learning, hermeneutic phenomenology*

BACKGROUND

The concept of caring has played a vital role in nursing education. Nursing scholars described school environments as caring places for students to gain optimum learning experiences and the faculty supports their students by modeling caring through the teacher-student relationship. Rogers (1983) contended that nurse educators need to be caring, genuine, understanding, facilitative and educate the whole person.

Developing caring behaviors in the academic setting is a challenging experience for both faculty & students. In order to recognize the significant implications of a learning experience grounded from a caring framework, the nursing faculty and students must have a clear grasp on how caring transpires within tutorial sessions in the study of nursing using problem based learning pedagogy. The nursing faculty is the most influential role models of caring behaviors in the learning environment. They are expected to communicate caring practices by the way they manage classroom activities and interrelate with nursing students.

The School of Health Sciences (SHS) of St. Paul University Philippines (SPUP) as a center of excellence in nursing program advocates a humanistic philosophy of providing quality nursing education in a caring environment. A humanistic orientation underscore the importance of the educator as a facilitator of learning that fosters an environment of trust, respect and cooperation thus providing a safe and nurturing relationship (Rogers, 1983). According to McNeil & Evans (2005), humanistic nursing education suggests faculty caring that demonstrates commitment, respect, concern and presence and nursing education is moving towards a curriculum that embraces a humanistic orientation.

The school pioneered the use of problem-based learning (PBL) as part of the redesigning process of the BSN curriculum in 2002. In PBL, the use of self-directed learning in a classroom environment is integrated so that the students are given opportunities to solve real life problems through knowledge building collaboration and meaningful activities under the facilitative guidance of the PBL tutor. This situation raises a query whether a PBL learning environment transcend human care practices in the study of nursing. Nurse educators have yet to ask the

question **“is caring translated in the faculty-student interaction during their PBL sessions?”** The aim of this research is to explore the lived experiences of faculty caring between nursing faculty and students in a problem based learning environment.

OBJECTIVES

Examining lived experiences of faculty caring in a problem-based learning environment provided perspectives that can be lived and valued by nursing as a discipline and profession. Knowledge of nursing based on lived experiences of faculty caring provided a more effective problem-based learning praxis. The research question was: **“What are the lived experiences of faculty caring by nursing faculty & students in a problem-based learning environment?”** The purpose of the study was to uncover the lived experiences of faculty caring in the nursing faculty & students’ relationship in a problem based learning environment.

METHODS

The methodological framework used in this study was van Manen’s (1990) hermeneutic phenomenological approach to human science research specifically designed to study the life world as immediately experienced and to gain a deeper meaning of the experience. Faculty caring was revealed through analysis of interviews to answer the research question **“what are the lived experiences of faculty caring between nursing faculty & students in a problem-based learning environment?”** Van Manen’s (1990) methodology is based philosophically in the descriptive traditions of Husserl and the interpretive background of Heidegger that strives to understand the essential meaning of the experience (Burhams, 2010).

This hermeneutic phenomenological qualitative study is designed to understand the lived experience of faculty caring within the context of the nursing faculty and nursing student relationship during PBL tutorial sessions. This approach provided knowledge-based to gain deeper understanding of faculty caring that can be used to teaching learning nursing using PBL approach.

Full time tenured nursing faculty and full time BSN nursing students participated in the study by means of in-depth interviews which were taped recorded and documented by the author. Inclusion criteria for the nursing faculty included: full time nursing faculty of the school with a masters’ degree, at least 2 years PBL tutor, and two years teaching experience at the university, and had undergone intensive training in problem-based learning. Those meeting all the criteria were interviewed forming a purposive convenient sampling of 18 faculty members and 40 nursing students.

Data Collection

Data were collected through taped recorded, focused group interviews of 30 minutes with each participant. The interviews were conducted privately in the faculty room and students’ PBL kiosks. The researcher and two research assistants personally conducted all interviews. To uncover the lived experiences of faculty caring these questions were asked:

Tell me about your perception about faculty caring in a problem based learning environment? What does faculty caring in a problem based learning environment mean to you?

What caring behaviors do you want to find in a PBL tutor?

If needed to elicit in-depth responses, or to refocus the participant on the central issue of faculty caring, specific probing questions were asked : tell me more about it, what was that like...?

The faculty (n=18) and student participants (n=40) were interviewed and asked to describe a situation in which faculty caring was demonstrated by their PBL tutors. Unstructured open-ended interview guide questions were used to conduct the focus group interviews among the students. The faculty respondents were interviewed during their free time that lasted for 20-30 minutes; Clarifications of responses were done in order to capture the real essence of the respondents' answers. The focus group interviews were terminated when the respondents have nothing more to say.

Ethical Consideration

The author sought permission to conduct the study from the institutional review board of the university. Informed consent before the interviews were sought by the investigator and the participants were assured of confidentiality and were given the opportunity to withdraw at any time they deemed necessary.

Data Analysis

The qualitative data were analyzed, interpreted and integrated using van Manen's (1990) qualitative hermeneutic phenomenological research approach that specified 6 methodological steps:

First, we "turned to the nature of the phenomenon that interests" (van Manen 1990, p 30) asserting belief in the relevance of the lived meaning of faculty caring from the perspectives of the nursing faculty & students. Meaningful quotes of faculty caring were identified, coded, and compared from which a preliminary classification of categories or themes were constructed. Analyzed data from the interview were compared and clustered together in order to fit them in their appropriate category or themes.

Second, "investigating experience as we live it rather than as one conceptualizes it" (van Manen, 1990, p.30). Descriptions of faculty caring were compared to the preliminary version of the definitions of the identified themes or categories. Descriptions of faculty caring according to the two respondents were compared and put side by side with one another to enhance the consistency of each category.

Third step "reflecting on the essential themes which characterizes the phenomena" (van Manen, 1990, p.30) scrutinizing the data, we listened to the taped recorded interviews and selected some critical points or excerpts to emerging themes, back again to the interviews, to the development of narrative texts. We examined commonalities to expose essential elements within the interviews. Carrying out a coding process, categories were combined together based on similarities and putting them on a central theme.

Fourth step was “describing the phenomena through the art of writing and rewriting (van Manen, 1990, p. 30) we tried to reflect on the emerging themes or the essential elements of the interpretive analysis, an all-embracing view of the faculty caring phenomenon in written text. As van Manen (1990) contends, the goal of hermeneutic is “to create meaning and achieve a sense of understanding of the phenomenon” (in Laverty, 2014). By reading the written narratives, one can understand the lived meaning of the phenomenon being studied based on the interpretation of the author.

The last two of the 6 steps were” maintaining a strong and oriented relation to the phenomenon and balancing the research context by considering parts and whole.”

We sought the help of staff nurses at the hospital who were graduates of the school. These nurses were alumni graduates of nursing at the university and had used PBL approach in the study of nursing. The themes and subthemes were validated by the non-participant nurses who further validated the narrative texts. The in depth text offered insights to the non-participants and gain understanding on the lived meaning of faculty caring within a problem based learning praxis.

RESULTS

Faculty caring themes were interpreted and validated from the participants’ narrative texts. Seven faculty caring themes emerged from the lived experiences of faculty caring from the responses of participants: concern, commitment, confidence, competence, guidance, presence and conscience. Concern was interpreted as showing empathy, respect and being sensitive. Commitment was interpreted as being devoted to work, being patient and persevering. Confidence was interpreted as encouraging and motivating, instilling faith and hope, promoting independence, creating positive learning environment. Competence was interpreted as being knowledgeable, good in communication and facilitative during PBL tutorials. Guidance was interpreted as giving advice, monitors progress of students and follows through, being strict but firm, being a parent and advocate. Conscience was interpreted as being fair and objective, honest, responsible, nonjudgmental. Presence was interpreted in phrases such as being available, attentive listening and being with.

Verbatim examples

Lived experiences of faculty caring were interpreted and validated after careful review of audiotapes and transcripts, looking for phrases that captured the lived experiences of faculty caring according to the nursing faculty & students. These were verbatim examples of faculty caring from some of the nursing faculty and student participants.

Nursing faculty

” As a faculty, I think it is very important to give due consideration or respect to the students especially when you need to inform them that they failed in the course...or when you need to tell their parents about the academic standing of their children..” (concern)

” to give advice most especially to those students who did not pass the course and those with attitude problems; I need to remind them to focus on their studies in order for them to reach their goals.” (guidance)

“I think faculty caring is demonstrated when the faculty encouraged students to participate actively during PBL sessions and use creative and critical thinking I see to it that I create a non-threatening environment during PBL sessions to motivate the students to participate actively.” (confidence)

“one should be knowledgeable about the concepts being discussed in the PBL so that the tutor can help the students’ process information or questions during the discussions.” (competence)

“loving my job as well as loving the people who are involved in my job ... and these are my students... being devoted to them.” (commitment)

“a faculty is caring when he/she treats the students fairly, the students gets demoralize if they don’t get grades they don’t deserve, there’s no sense of justice if that is the case.” (conscience)

Nursing students

“I really enjoyed our PBL sessions because I am comfortable with my PBL tutor who is always available whenever we needed her... she is always open and willing to extend help when we have needs and problems.” (presence)

“There are a lot of faculty caring behaviors to say but for me making connections or bonding with the students are actions that convey caring.” (concern)

“It feels good that you feel they care for you, not that you’re a student but it seems that they just don’t care that you learn or having good grades, or give good answers during PBL sessions but it’s having this connection with them through constant guidance and close monitoring of whatever you do.” (guidance)

“I had experienced caring from the faculty in several ways but the most important behavior that stands out from them is their facilitation skills during PBL sessions” (competence).

“I like the way my tutors encourage us to on how to deal with our studies most especially when I did not pass in the preliminary term. My PBL tutor encouraged and motivated me not to give up; that I can still make it, they would give me advices and encouraging words to study harder and put my best on it.” (confidence)

“It was the first semester of my fourth year that I realized the caring attitude of our tutor; I was feeling down and could not cope with my studies because I had a family problem. My tutor showed concern to me when she allowed me to open up my concerns, feelings and emotions without her being judgmental.” (conscience)

My PBL tutor extends beyond PBL time to finish nursing concepts, he conveys a sense of enthusiasm to his work; he participates willingly in school activities and willing to sacrifice his time just to be of help to us, and I find it very caring on his part”(commitment)

DISCUSSION

The lived experiences of faculty caring phenomenon had meaning for nursing faculty and nursing students as they utilize PBL pedagogy. Knowing nurses’ perspectives and meaningful experiences of faculty caring can enhance the faculty-student relationship that can foster growth and development to both.

Seven essential themes emerged from the narratives of the participants which uncovered lived experiences of faculty caring that resided predominantly in the nursing faculty-student relationship during PBL tutorial sessions. The seven themes were **concern, presence, confidence, competence, commitment, conscience and guidance**. These themes were reflected within the caring relationship between the PBL tutors and nursing students. Some of these themes were validated in Roach’s theory of caring as the human mode of being, competence, confidence, conscience, compassion are regarded as caring attributed by Roach (1984).

The findings of the study confirmed that Paulinian education is deeply rooted on a “humanistic-educative paradigm” (Bevis & Watson, 2000) assuming that the teaching learning process is not only limited to the intellectual realm but rather in the whole human experience that affects the body, mind and spirit merging in the development of scholarship (Bevis & Watson, 2000).

The findings of this study further validated that the power of caring are expressed in caring relationships emanating from the faculty-student transpersonal relationship. Within this context, this study acknowledged that transpersonal caring process is relational and connected, intersubjective, and evolving. Caring is deemed to be paramount therefore in the epistemology of nursing education.

Studies on caring in nursing education confirmed that caring behaviors of faculty have significant influence on the students’ school achievements. (Miller, 2008; Grant, 1998; Hallinger, & Murphy, 1986; Sizer, 1984, Asby & Roebuck, 1969). These studies have confirmed that schools with frequent association with their students or those who engage in “high community” with students manifest the following positive educational outcomes: high academic performance; higher learning motivation, greater social competence and fewer conduct problems.

Studies have strongly affirmed that teacher caring makes the biggest contribution to the students’ intrinsic motivation to learn (Miller, 2008; Murdock & Miller, 2003). Deiro (2003) asserts that teachers who establish emotional connections and interact closely with students can have a great impact on students’ lives.

The lived experiences of faculty caring were centered on the interpersonal relationship between the nursing faculty & nursing students. The seven essential themes of concern, presence, commitment, confidence, conscience and guidance were validated in the essence of faculty caring in a problem-based learning environment. These shared meanings of faculty caring can be used to inform

nursing educators using PBL tutorial occasions as caring moments and an opportunity to evaluate faculty caring behaviors manifested between faculty & student interactions during PBL tutorial sessions. The faculty can use these themes to evaluate the faculty-student caring interactions during PBL tutorial sessions.

Students are more likely to persevere in their programs when they perceive a greater level of nurse educator support, which involved a mentoring relationship and direct assistance to facilitate learning by teachers. Frequent monitoring and following up of student accomplishments and activities in school convey a caring commitment by the nurse educator for student learning.

CONCLUSION

The concept of caring which is uniquely known and expressed in nursing should be explored and further studied to provide an organizing framework for studying caring in nursing education, practice and research. Nursing administrators must provide learning opportunities to enhance faculty and students caring relationships in nursing education. Caring is translated by the nursing faculty to nursing students who emulate caring behaviors manifested in a faculty-student relationship that is empowering and transforming. Faculty caring behaviors demonstrated by the nursing faculty foster growth and empowerment to those whom care is given. Future research should explore innovative ways and programs to continue empowering nursing faculty and students to utilize PBL tutorial occasions as caring moments and to further validate the findings of this study and imperative that addressing the lived experiences of faculty caring can influence student success in their academic endeavors.

REFERENCES

- Boykin, A & Shoenhofer, S. (1989). Caring In Nursing: Analysis of an extant theory. *Nursing Science Quarterly*. Copyright Williams & Wilkins, p, 149-155
- Bevis, E; Watson, J. (2000). Towards a caring curriculum: A new pedagogy for Nursing: *New York, National League for Nursing*, Burton, Jones and Bartlett Publishers
- Lewis, S; Rogers, M.; Naef, R. (2006) Caring Human Science Philosophy in Nursing Education :Beyond the curriculum revolution. *International Journal of Human Caring*, 10, 4, 31-37
- Junio, R. Sr. T. (2002). Problem-based learning as a curriculum strategy in reengineering the nursing program of St. Paul University for the 21st century. Unpublished manuscript
- Miller, R. (2008). The influence of teachers' caring behaviors on high school students' grades and behavior. *International Journal of Education*, 4, 15-24
- Miller, A. (2007). Students that persist: Caring relationships that make a difference in higher education.
- Roach, S. (1984). Caring: The human mode of being, implications for nursing.
- Rogers, C. (1969). *Freedom to Learn*. Columbus Ohio; Charles Merrill Publishing Co.,

- Tee, E. (2007). Caring behavior in Nursing Education: A quantitative and phenomenological approach. *Philippine Journal of Nursing Education*, 17, 10-12
- Watermann, A. (2007). A case study of caring in nursing education, *Journal of Nursing Education*, 3, 59-74
- Watson, J. (1988) *Nursing: Human science and human care. a theory of nursing*. NY: National League for Nursing.
- Watson, J. (2002). *Assessing and measuring caring in nursing and health science*. Springer Publishing Company.
- Watson, J. (2008). *Nursing: The philosophy and science of caring (Revised ed.)*. Colorado, USA: University of Press Colorado.

A REVIEW OF LITERATURE: NURSING COMPETENCIES IN DISASTER MANAGEMENT; IMPLICATION FOR NURSING CURRICULUM OF DISASTER NURSING

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ABSTRACT

Background: Disaster as extraordinary events that threaten the livelihoods, caused by nature, human, or both. For reduce the impact, need to the role of nurses. But in Indonesia and other countries still lack the role of nurses in disaster response. Neded a knowledge and competencies from a nurse for the equal potential and complexity of the disaster's impact. Purpose of this study is to explore the competence of nurses in disaster management as the basis for disaster nursing curriculum.

Methods: This study used the relevant literature including journals, articles, official reports strating from 2005 until 2015 were derived from electronic databases CINAHL, PubMed, and ProQuest using the keyword "disaster, nursing competencies, disaster nursing".

Results: There are twelve (12) journal in this study. Competencies required of the nurse in disaster management is promotion and education, masss casualty transportation/prehospital transportation, emergency management (BLS and ACLS), trauma management (BLS and ATLS), monitor and observation, mass casualty triage, controlling specific infection, psychological first aid and crisis intervention, wound management (debridement and dressing), community health assessment and patient care recording. Disaster of Curriculum in Indonesia have begun to be implemented by the Provincial Government of Aceh them on Tjoet Nyak Dien Nursing, Nursing Abulyatama and Andalas University of West Sumatra.

Conclusion: Competencies required of the nurse in disaster management is promotion and education, mass casualty transportation, emergency management (BLS and ACLS), trauma management (ATLS), observation, mass casualty triage, controlling infection, psychological first aid, wound management, community health assessment and recording.

Keywords: disaster, nurse's experience, nurse's competencies, disaster nursing, disaster curriculum.

BACKGROUND

Disaster as an extraordinary event that is disturbing and threatening the lives and livelihoods that can be caused by nature or humans, or both (Toha, 2007). To decrease the impact caused by the disaster, needed the support of various parties,

including the involvement of nurses. Nurses as health workers should be at the forefront in disaster management in Indonesia (Chan, et al 2010).

The role of the nurse can be started from the stage of mitigation (prevention), emergency response in Prehospital and hospital phase, until the recovery phase.

But so far, not only in Indonesia in other countries are also faced with the conditions of the lack of the role of nurses in response to the disaster. So we need a knowledge and competency are qualified by a nurse to offset potential and complexity of the disaster and its impact may be even greater in the future. The meeting, conducted by the American Public Health Association in 2006 had mentioned that the necessary readiness of health workers in encountering extraordinary events through disaster education is a priority in the curriculum (WHO and ICN, 2009).

Look at the role of nurse and the importance of the need for disaster nursing in the curriculum, the authors interested in raising the problem of competence of nurses in disaster management; the implications of the disaster nursing in nursing education curriculum.

OBJECTIVE

This study purposed was to explore the experience and competence nurses in disaster management as a basis for the preparation of disaster nursing curriculum.

METHOD

This study used the literature study to search relevant literature including journals, articles, official reports from the years 2005-2015 were derived from electronic databases CINAHL, PubMed, and ProQuest using the keyword "disaster, nursing competencies in disaster, disaster nursing". Some journals that support is then taken as study materials and followed up by reading the references of each journal. So the end result found the twelve (12) journals that support the discussion of competency of nurses in disasters and disaster nursing curriculum as study materials.

RESULTS

Research conducted by Dewi Hermawati (2010) aims to find a picture of the level of knowledge and skills of nurses in disaster preparedness (preparedness) as well as investigating the relationship between severity and perceived risk, clinical experience, training and education, and also the presence of a nurse in a simulated disaster management in hospitals as well as the knowledge and skills of nurses in patient care readiness by the tsunami. The results showed the severity and perceived risk, clinical experience, training and education has a significance level low correlation with the knowledge and skills of nurses who perceived in the face of disaster. Hermawati concluded that the required curriculum in order clinic nurses regarding nurse in the face of disaster preparedness (Hermawati, 2010).

Another study conducted by Fung, Loke, and Lai (2008) to 164 nurses Register Nurse (RN) who continue the study S 2 Nursing at the University of Hong Kong. This study states, to support the ability of nurses in disaster management, there are some competencies that must be met, namely: First aid, Basic Life Support (BCLS), Advanced Cardiovascular Life Support (ACLS),

infection control, field triage, pre-hospital trauma life support , advanced trauma nursing care, post traumatic psychological care, and peri-trauma counseling.

A similar study conducted by Yin, He, Arbon, and Zhu (2011) to 24 nurses who take part in the handling of the earthquake disaster in Wenchuan. Results of the study were obtained against a very important competence must be owned nurse when a disaster occurs is; intravenous insertion, monitoring and observation, mass casualty triage, management of trauma patients (control homeostasis, bandaging, fixation, manual handling), and mass casualty transportation. While the competencies that are often used are: debridement and dressings, intravenous insertion, observation and monitoring. Based on this research, there are several competencies require specialized training, such as: mass casualty transportation, emergency management, and trauma management.

Research results obtained by Yin (2011) showed slightly different results to those carried out by Fung (2008). This happens because the participants in each study have different characteristics. In the study Yin, participants involved experience for themselves participate in the management team in Wenchuan earthquake disaster, while participants Fung has no experience in disaster management.

Research conducted by Husna (2011) supports eleven competencies that have been mentioned in several journals above. Where some of the competencies that must be owned by a nurse when it will play a role in disaster management is triage, acute respiratory care, spiritual care, mental health care, wound care, patient referral, psychosocial care. Moreover, other competencies that require training are BLS, ATLS, ACLS, BTLS, disaster management, and mental health care for the handling of the tsunami.

DISCUSSION

Conditions of emergency and disaster is an event that requires a unique competence in handling. In each phase of disaster management, nurses require different competencies. In the mitigation phase-prevention and preparedness competencies, competencies needed are public health promotion and education. At this stage, the nurse has a role to provide education and health promotion related to disaster prevention, the signs of disaster, disaster management by communities and the public response when a disaster occurs (WHO and ICN, 2009).

Referring to the 10 (ten) domain framework concept has been elaborated by the ICN, based on the phases of disaster management and competence required of nurses in disaster management, the curriculum can be structured as follows (Chan, Chan, Cheng, Fung, Lai, Leung, Leung, Li, Yip, Pang, 2010).

Table 1: Disaster curriculum frameworks and learning activities

| No. | Topic | Method |
|-----|---|-----------|
| 1. | The concept of disaster | Discus |
| 2. | The types of disaster | PBL |
| 3. | The role of nurses in Disaster Management | PBL |
| 4. | Promotion and health education | Role play |
| 5. | Communication and transport in the disaster | Discus |

| No. | Topic | Method |
|-----|---|-----------|
| 6. | Hospitals field and referral | Discus |
| 7. | Legal principles of ethics in disaster management | Discus |
| 8. | Management Pre hospital disaster | PBL |
| 9. | Infection control in disaster management | PBL |
| 10. | Assessment of individual, families and communities | Role play |
| 11. | Disaster triage | Role play |
| 12. | Mental Health care | Discus |
| 13. | Psychosocial and spiritual care | Discus |
| 14. | Post-disaster recovery of individuals, families and communities | PBL |

Learning methods that can be used is the Problem Based Learning (PBL), role play, simulations, group discussions, hospital clinical practice and direct visits disaster sites. Based on his research, Chan et al (2010) revealed that PBL effective method to enhance the knowledge and abilities of students in understanding the material. PBL can be triggers for students to be more active self-learning, anticipate other issues that arise in the handling of the disaster.

To know students' progress, the evaluation system which can be used such as written examination to evaluate cognitive of the students, skill tests and assessment PBL through seminars or group discussions. Assessment of individuals in the group needs to be done because in a disaster situation, the nurse will work as a team with other health professionals and other professions. So the ability of individuals in a group and the group's ability to solve problems need to be taken into account in the assessment (Chan et al, 2010).

In addition to the above topics, there are some basic competencies that must be owned by a nurse in the handling of emergency, trauma and disaster, namely: cardiovascular assessment, assessment of burns, mental status assessment, management crush injury and fracture. Competencies can be incorporated into the curriculum of medical or emergency nursing as a supporter. To improve the psychomotor of the student, can be followed by training-peltihan which supports competency in disaster management.

Table 2: Nursing Course

| No. | Topic |
|-----|-----------------------------------|
| 1. | Basic Life Support (BLS) |
| 2. | Acute Cardiac Life Support (ACLS) |
| 3. | Basic Trauma Life Support (BTLS) |
| 4. | Wound Debridement/wound care |

An outline of the framework of the concept of teaching and learning activities related competencies in disaster nursing has been trying to apply by Chan et al (2010) who tried to evaluate the implementation of the training or course "Introduction to Disaster Nursing" for 2 weeks to 150 nursing students in China. Chan et al evaluated the competency of students before and after training and also to find out the need for training on disaster management. The training is carried

out using a variety of learning methods adapted to the framework concepts such as ICN working groups, PBL, discussions/seminars, and lectures. Based on the result there are significant differences between the capabilities before and after training where an increase in the ability and knowledge of students to disasters and handling. Most students have a desire to participate as a helper in the disaster and competent to plunge into the disaster area, but under the supervision of (Chan et al, 2010).

In the preparation of disaster nursing curriculum, there are three (3) principles that must be maintained by the Global Standard for the Initial Education of Professional Nurses and Midwives is the content of the learning content, learning activities, and methods to be used (WHO and ICN, 2009). With another sense, the curriculum will be prepared to be built based on the competencies that have been standardized. Teaching and learning activities must consider how to achieve the target of interaction between students with disaster conditions as the focus of quality education and the implementation of appropriate learning methods to build professionalism and critical thinking.

President of ICN (International Council of Nurses) Dr. Hiroko Minami see the importance of studying about disaster nursing. Expected graduate nursing education programs in the USA, Europe and Asia should be prepared to become experts in disaster management along with the issues that are inside such as leadership, education and nursing's role in disaster management. However, so far the issue of its own in the development of disaster in the learning curriculum is competency standards in disaster nursing is still uncertain, the lack of tools in learning, learning the inadequate funding and lack of experience teaching team in disaster management (WHO and ICN, 2009). This is what makes the faculties of nursing feel less confident to develop disaster curriculum in teaching nursing (WHO and ICN, 2009).

Since the 1970s, the United States of America has implemented disaster nursing in the curriculum of nurses (WHO and ICN, 2009). Although it has many shortcomings in learning, but the development of students' knowledge about disasters and the role of nurses in disaster management is the basis of learning. And the curriculum is continuously improved in learning, especially since the 1990s (WHO and ICN, 2009).

Implementation of disaster nursing curriculum in Indonesia is not yet complete. Disaster nursing curriculum was first coined by the province of Aceh on four Academies of Nursing (Nursing) since 2006. However, so far the new disaster nursing into the local content in all four of the Nursing Departments. Fourth Nursing education is Tjoet Nyak Dien, Abulyatama Nursing, Nursing and Department of Nursing Teungku Fakinah Health Polytechnic Aceh, Mustafa Said (Ucok, 2009).

Nursing education is supported by the Japanese Red Cross in its implementation. Disaster nursing education is expected to support the nurses will be more responsive to respond in a disaster. Education is not only given to the students, but also to lecturers (Ucok, 2009).

President of the School of Nursing International Red Cross Kyushu, Prof. Etsuko Kita, said "since the opening of disaster nursing education in Aceh, has more than 42 working group meetings have been held to discuss the development

of the syllabus and textbooks Nursing disaster. but it also held six times of workshops to increase the skills and knowledge of disaster nursing in the nursing field of disaster management, disaster nursing and children, the elderly, pregnant women and mental health and first aid (Ucok, 2009).

Disaster nursing curriculum has also been applied also at the University of Andalas in Indonesia. Learning modules arranged in a total of 3 credits (Semester Credit Unit) with two theoretical and one practical. Andalas University has also started to participate in the handling of the landslide which occurred on January 27, 2013 in Kenagarian Batang Agam district of Tanjung Raya. According to Prof. Dr. Dachriyanus, APT, Andalas University has had a catastrophic nursing courses so that the team have been exposed and ready in disaster management (Public Relations and Protocol Andalas University, 2013).

CONCLUSION

Nurses have an important role in disaster management starting in pre hospital to hospital. In the preparation of disaster nursing curriculum, the main thing is to know the competence to be achieved in learning. Competencies required of the nurse in disaster management is promotion and education, mass casualty transportation

Prehospital transportation, emergency management (BLS and ACLS), trauma management (BLS and ATLS), monitoring and observation, mass casualty triage, controlling specific infection, psychological first aid and crisis intervention, wound management (debridement and dressing), community health assessment and final patient care recording. Curriculum disasters in Indonesia have begun to do by the government of the province of Aceh on Akper Tjoet Nyak Dien, Abulyatama Nursing.

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REFERENCES

- Chan, S, S, S., Chan, W., Cheng, Y., Fung, O., Lai, T, K., Leung, A, W, K., Leung, K., Li Sijian, Yip, A., Pang, S. (2010). Development and Evaluation of an Undergraduate Training Course for Developing International Council of Nurses Disaster Nursing Competencies in China. *Journal of Nursing Scholarship*. 42 (2): 405-413.
- Fung, O, W, M., Loke, A, Y, and Lai, C, K, Y. (2009). Nurses' perception of disaster: implications for disaster nursing curriculum. *Journal of Clinical Nursing*. 18: 3165-3171.
- Hermawati, D. (2010). *Nurses's perceived preparedness of knowledge and skills in caring for patients attacked by tsunami in Banda Aceh, Indonesia and Its related factors*. The 2nd International Conference on Humanities and Social Sciences. Faculty of Liberal Arts. Prince of Songkla University.
- Humass dan Protokol Universitas Andalas (Unand). (2013). *Pelepasan Tim Peduli Bencana Fakultas Keperawatan Universitas Andalas (care for disaster, nursing school, Andalas University)*. Retrieved 4 April 2013.

- Husna Cut. (2011). Emergency training, education and perceived clinical skills for tsunami care among nurses in Banda Aceh Indonesia. *Nurse Media Journal of Nursing*. 1: 75-86.
- Loke, A, Y., and Fung, O, W, M. (2014). Nurses' Competencies in Disaster Nursing: Implication for Curriculum Development and Public Health. *Int. J. Environ. Res. Public Health*. 11:328-3303.
- Toha, M. (2007). Berkawan dengan Ancaman; Strategi dan Adaptasi Mengurangi Resiko Bencana (*friendship with the threar: strategy and adaptation to reduce disaster risk*). Wahana Lingkungan Hidup Indonesia.
- Ucok Parta. (2009). Aceh siapakan perawat tanggap bencana (*Aceh prepare nurses to the disaster preparedness*). www.acehkita.com. Diakses tanggal 4 April 2013
- Universitas Andalas. (2010). Modul Pembelajaran Mata Kuliah: Keperawatan Bencana (Modul: nursing disaster). Faculty of nursing, Andalas University.
- World Health Organization (WHO) and International Council of Nurses (ICN). (2009). ICN Framework of Disaster Nursing Competencies.
- Yin. H., He. H., Arbon, P., Zhu. J. (2011). A survey of the practice of nurse's skills in Wenchuan earthquake disaster sites; implication for disaster training. *Journal of Advanced Nursing*. 67(10): 2231-2238.

CARING SCIENCE WITHIN ISLAMIC CONTEXTS; A LITERATURE REVIEW

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ABSTRACT

Background: *Caring is an essence of nursing and many studies enlighten about caring for various populations and settings. Caring science within Islamic contexts has gained more attention from nurses, especially in the area related to cultural and spiritual care.*

Aim: *The aim of this study was to discuss about the concepts of caring science within Islamic contexts.*

Methods: *We extracted 27 articles in both qualitative and quantitative studies, in English language, based on PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) method. The date and years were limited from January 2008 to 2014 from several databases. The keywords were 'caring science', 'Islamic caring', 'and Islamic Perspectives' and combined with words of 'Nursing', 'caring', and 'care'.*

Findings: *Six main topics have been include in this study: 1) theoretical definition of caring; 2) theories of caring and theory of caring in Islamic perspectives; 3) The differences of caring theories 4) the similarities of caring theories; 5) caring action in Islamic perspectives, and 6) caring outcomes.*

Conclusion: *In Islamic nursing, caring is based on well-being improvement and healing, and concentration on all domains of nursing care and relationship between different dimensions of human (bio-psycho-social-spiritual dimensions).*

Implications: *Within these contexts, a better understanding of the diverse conceptualizations of nursing is needed in order to ensure that nurses across all contexts can provide optimal care.*

Keywords: *Caring, Islamic contexts, Islamic caring.*

BACKGROUND

Islam for Muslims is not only a religion but a complete way of life that advocates peace, mercy and forgiveness. Muslims tend to emphasize the relationship between Allah and the person, without intermediaries (Akhtar, 2002). The fundamental teaching of Islam is the belief in the oneness of Allah (Rassool, 2000). Muslims live their lifetime through the belief in and practice of the faith for

Allah. Muslims use the six beliefs of Islam and the five pillars of Islam to guide them in practicing the faith in their life way. The six beliefs are: 1) belief in God, 2) belief in Angels, 3) belief in the Quran, 4) belief in the Prophets and Messengers of God, 5) belief in the Day of Judgment, 6) belief in *Al-Qadar* (Divine predestination) (Ibrahim, 1999). Belief in Allah means believing firmly in His existence, Lordship and Divinity, and His names and attributes. Muslims believe in the existence of the angels and that they are honored creatures. The angels worship God alone, obey Him, and act only by His command. Among the angels is Gabriel, who brought down the *Quran* to Muhammad. Muslims believe in the prophets and messengers of God, starting with Adam, including Noah, Abraham, Ishmael, Isaac, Jacob, Moses, and Jesus (peace be upon them), but God's final messenger was revealed to the Prophet Muhammad. Muslims believe in the Day of Judgment when all people will be resurrected for God's judgment according to their beliefs and deeds. Muslims believe in Divine Predestination, but this belief does not mean that a Muslim does not have freewill. This means that Muslims can choose right or wrong and they are responsible for their choices (Islamic-Life Forums, 2009). For these reasons, the six beliefs of Islam are vital in order to have a sense of spirituality for Muslims.

Muslim also accept and follow the five pillars of Islam. Following the five pillars of Islam is an obligation or duty of every Muslim, and these help Muslims lead a disciplined life. The five pillars consist of: 1) the declaration of faith (*Shahadah* in Arabic), and Mohammad is His Prophet; 2) formal prayer/*salat*, 3) tithing/*zakat*, 4) fasting/*saum*, and 5) pilgrimage/*hajj* (Miklancie, 2007; Rassool, 2000). Religious status of Muslims will be reflected to the practice by these pillars and religious practice of a Muslim (Al-Lahim, 1999). Muslim patients believe that illness, suffering, and dying is a part of life and could be a test whereby *Allah* (God) checks the belief of the followers. During illness, Muslims are to seek God's help with patience and prayer, and increase the remembrance of God to obtain peace, ask for forgiveness, give more in charity, and read or listen to more of the *Qur'an*. God rewards those who bear their suffering with patience and faith in God's mercy. Therefore, seeking help from *Allah* and praying during the course of illness and difficulties is encouraged.

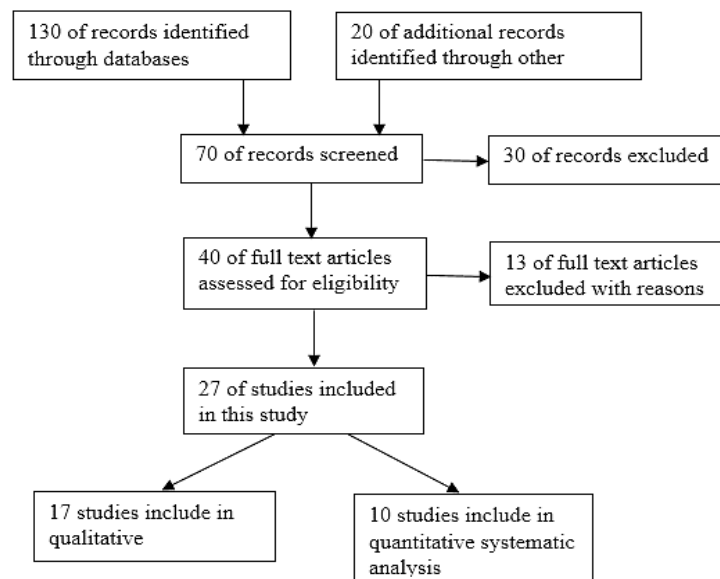
In performing prayer, Muslims can ask *Allah* to diminish the health problem and believe that Allah will grant it. Praying is connected to distort psychological well-being (Mebrouk, 2008). Fasting, tithing (*Zakat*), and pilgrimage (*Hajj*) are the ways a Muslim to clean the body and mind from sin and perhaps the God (*Allah*) will give the forgiveness, eventually a Muslim will get healthy and prosperous (Barolia & Karmaliani, 2008; Rassool, 2000). The word *zakat* means purification and growth. *Zakat* provides guidelines for the provision of social justice, positive human behavior and equitable socio-economic system. Fasting is also beneficial for health. Fasting is regarded spiritually as a method of self-purification. For Muslims, pilgrimage to *Mecca* is aimed to purify the bodies and mind from the sins, and gain their spirit (Rassool, 2000).

Caring is a natural outcome of having a love for Allah and the Prophet. Caring in Islam means the will to be responsible, sensitive, concerned with the motivation, and commitment to acting in the right order to achieve perfection. In Islam, caring is expressed by three levels: Intention, thought, and action. For

intention and thought, is understanding of what, when, who to care for and why. At the action level is the how and what is related to knowledge, skills, and resources are embedded with the process and outcome of caring (Rassool, 2000). Therefore, we specified the objective of the literature review was to provide the concepts of caring science within Islamic contexts.

METHODS

Figure 1.
Flow of information through the different phases of a systematic review



We reviewed articles used PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) guidelines (Moher et al., 2015). We extracted 27 articles in both qualitative and quantitative studies, only studies in English languages. We searched databases from Medline, CINAHL, PubMed, Science Direct, and Springer Link. The keywords of searching were ‘caring science’, ‘Islamic caring’, ‘and Islamic Perspectives’ and combined with words of ‘Nursing’, ‘caring’, and ‘care’. The date and years were limited from January 2008 to 2014 (see figure 1)

RESULTS

We found 4 topics in the literature of Islamic scholars. They included 1) theoretical definition of caring; 2) theories of caring and theory of caring in Islamic perspective; 3) the similarities of caring science theory; and 4) caring outcomes.

Theoretical Definition of Caring

Several nurse theorists have focused on caring, emphasizing its centrality to their work. Although there are many different ways and definitions of caring. Every human being is in need of and is capable of caring (Boykin & Schoenhofer, 2001). The essence of human caring is shown through love, empathy, authenticity, compassion, presence, availability, attendance, and communication (Ray, 2010).

Some nurses theorist and theoretical definition of caring, we resumed in the table 1.

Table 1.
Nurse Theorist and Theoretical Definition of Caring

| Nurse theorist | Theoretical definition |
|-------------------------------------|---|
| Watson (2008) | A value and attitude that has to become a will, an intention, or a commitment, that manifest itself in concrete acts (p.32) |
| Boykin and Schoenhofer (2001) | Caring is the intentional and authentic presence of the nurse with another who is recognized as person living caring and growing in caring. |
| Roach (1984) as cited in Ray (2010) | Roach defined caring as compassion, commitment, conscience, confidence, competence, and comportment. |
| Mayeroff (1971) | Focused on caring as helping others grow. |
| Ray (2005) | Caring as the unifying focus of nursing. |

Theories of Caring and theory of caring in Islamic Perspectives

Over the decade the practical meaning of caring has been extended to large numbers of research papers. Nurse scholars also have increasingly recognized the caring science as a discipline that requires specific methods of inquiry. We compared caring theories in this study: Leininger's theory of culture care, Watson's theory of human care, Roach's conceptualization of caring, Boykin & Schoenhofer's theory of nursing as caring, and Barolia and Karmaliani's theory of Islamic caring (Table 2).

Table 2.
The Comparisons of Caring Theories

| | Leininger ^(a) | Watson ^(a) | Roach ^(a) | Boykin & Schoenfoer ^(a) | Barolia & Karmaliani ^(b) |
|-----------------------|---|---|-----------------------------------|---|---|
| Origin of theory | Anthropology | Human science and metaphysics | Philosophy and theology | Philosophy and human science | Philosophy and theology |
| Description of caring | Caring refers to actions and activities directed toward assisting, supporting, or enabling another individual or group with evident or anticipated needs to ameliorate or improve a human condition or life way, or | A value and an attitude that has to become a will, an intention, or a commitment, that manifest itself in concrete acts | Caring is the human mode of being | Caring is the intentional and authentic presence of the nurse with another who is recognized as a person living caring and growing in caring. | Caring refers to the balancing of the human personality which is essential for providing nursing care from an Islamic perspective |

| | | | | | |
|------------------------|---|--|---|---|---|
| Description of nursing | face death. Nursing refers to a learned humanistic and scientific profession and discipline which is focused on human care phenomena and activities. | A human science of persons and human health illness experience that are mediated by professional, personal, scientific, aesthetic, and ethical human care transactions | Nursing is the professionalization of human caring, through the affirmation that caring is the human mode of being and through the development of the capacity to care through acquisition of skills, cognitive, affective, technical, and administrative | Nursing as caring involves the nurturing of persons living caring and growing in caring | According to this theory, nursing refers to succeeding in caring behaviours and caring action by sustaining a balance of dimensions of physical, ethical, ideological, spiritual, and intellectual. |
| Key concepts | Caring: culture; culture care diversity and universality | Transpersonal caring and the 10 carative factors | The six Cs of caring (Compassion, Competence, Confidence, Conscience, Commitment, Comportment) | Personhood & the nursing situation | The five dimensions of caring (physical, ethical, ideological, spiritual, and intellectual). |
| Goal/ Outcome | To improve and provide care which is culturally acceptable and is beneficial and useful to the client and family | To protect, enhance and preserve humanity by helping a person find meaning in illness, suffering, pain and existence | Roach does not clearly state a goal or outcome | Enhancement of personhood | To act caring in the harmony of the human being |
| Scope of theory | Middle range theory | Middle range theory | Grand theory | Grand theory | Research-based theory |

Note: ^(a) From "Caring: Theoretical Perspectives of Relevance to Nursing," by T.V McCance, H.P. McKenna, & J. R. P. Boore, 1999. *Journal of Advanced Nursing*, 30(6), P 1390. ^(b) From "Caring in Nursing from an Islamic Perspective: A Grounded Theory Approach," Barolia & Karmaliani, 2008. *International Journal of Human Caring*, 13(1), 55-63.

The Similarities of Caring Theories

Theories of caring are highlight a number of similarities and differences. The similarities of those existing theory, which are:

- Both Leininger (1988) and Watson (2008) value the humanistic sciences, debating caring as a part of nursing which has therapeutic benefit and distinct and complementary to that of curing

- The caring dimension identified from Barolia and Karmaliani's theory is similar to the one in the human sciences and the metaphysical dimension (philosophy of being and knowing) of Watson's theory. For example, the concepts of hope, relationship, positive and negative responses, transpersonal teaching/learning in the form of role modeling, and spiritual forces are alike in both the theories
- Roach's conceptualization of caring has emerged in the Barolia and Karmaliani's theory. Compassion and conscience are reflected in the spiritual dimension. Competence and confidence also have been shown in the intellectual dimension.
- The unique human focus, stated in Boykin & Schoenfoer's theory, is also signified in all the dimension of caring in nursing from an Islamic perspective.
- As a Western country may develop the theory in terms of Christian religion, however, the caring from an Islamic perspective is like any other religion or non-religious perspective. It is because of the theories are based on the universal values of nursing. Like in Christian, in Islam the body is respected and is considered important because it carries the soul (Barolia & Karmaliani, 2008).

Although, Barolia and Karmaliani's theory have some similarities with four existing caring theories, it is noted that caring in nursing an Islamic perspective does not high point the concept of culture proposed by Leininger. Nevertheless, it can be assumed that because 'culture is embedded in religion and cultural differences therefore have not been identified as a major concern by participants while exploring caring in nursing from an Islamic Perspective (Barolia & Karmaliani, 2008). The principal practices of caring from an Islamic perspective are based on the divine revelation that is permanent, and the one who practices caring receives many blessings. The Prophet shows how Allah expects human beings to act by caring for other people (Rassool, 2000). Muslim believe that religious teachings bear on all aspects of life, and they strive to keep God at the center of their consciousness, intentions, and actions such as the five pillars of Islam (Power, 2007; Stefan, 2010).

Caring Outcomes

Caring had been studied in many years ago and the outcomes of caring studies were diverse. Caring outcomes can be clinically measured through measurements. It may also be patient-based, such as information regarding patient satisfaction or health related to quality of life. Caring outcomes may have an economic perspective with measurements that may include length of stay, and cost of testing and treatment.

Table 3

The Empirical Outcomes of Caring and Non-Caring for Patients and Nurses

| Empirical outcomes of caring research: Nurses | | Empirical outcomes of caring research: Patients | |
|--|--|--|--|
| Research outcomes of caring for nurses | Research outcomes of non-caring for nurses | Research outcomes of caring for patients | Research outcomes of non-caring for patients |

| Empirical outcomes of caring research: Nurses | | Empirical outcomes of caring research: Patients | |
|---|--|--|---|
| Research outcomes of caring for nurses | Research outcomes of non-caring for nurses | Research outcomes of caring for patients | Research outcomes of non-caring for patients |
| <ul style="list-style-type: none"> - Develop a sense of accomplishment, satisfaction, purpose, and gratitude - Preserved integrity, fulfilment, wholeness, self-esteem - Live own philosophy - Develop respect for life and death - Reflective - Develop love of nursing, increased knowledge | <ul style="list-style-type: none"> - Become hardened - Become oblivious - Become depressed - Become frightened - Become worn down | <ul style="list-style-type: none"> - Emotional-spiritual well-being (dignity, self-control, personhood) - Enhanced physical healing, lives saved, safety, more energy, less cost, more comfortable, less loss - Trust relationship, decrease in alienation, feeling closer family relations | <ul style="list-style-type: none"> - Feeling of humiliation, frightened, despair, helplessness, alienation, vulnerability, lingering bad memories, and that one is out of control - Decreased healing |

Note. Adapted from "Assessing and Measuring caring in Nursing and Health Sciences," by J. Watson, 2009, p. 17.

DISCUSSION

In nursing science, caring is an art, a science, and a philosophy. Caring as a concept is still regarded as differing. Caring is often described as the essence of nursing (Watson, 2008) and is recommended to complement the four metaparadigm concepts of nursing. Caring is an ontology (a way of being), an epistemology (a body of knowledge and way of knowing), an ethic (a moral ideal), an aesthetic (an artful practice), and a sociocultural phenomenon (Ray, 2010). Caring could be a way to define the nurse's practice as caring having ingredients (Mayeroff, 1971), and caring could be as a moral responsibility (Schaefer, 2002). Locsin (2005) viewed caring in nursing technology competencies.

In addition, from a knowledge development standpoint, theories of caring and caring knowledge are located within nursing science as well as other disciplines. Thus, caring science is developing more nowadays. As a result, caring knowledge and practices affect all health, education, and human service practitioners, because much evidence has been cited. Consequently, caring science is emerging as a distinct field of study within its own right (Cossette, Pepin, Cote, & de Courval, 2008; Watson & Smith, 2002).

Brilowski and Wendler (2004) identified the core, enduring attributes of caring in order to increase understanding of the concept and to identify its implications for research and practice. Adjunct to the core attribute of caring, the philosopher Milton Mayeroff (1971) described the essential ingredients of caring when a nurse is working. According to Mayeroff, the essential ingredients of caring are knowing a patient, alternating rhythm, patience, honesty, trust, humility, hope and courage. Those attributes are as a cornerstone for a nurse to apply caring for a patient.

As psycho-socio-cultural-spiritual beings, humans exist in relationship to others and their environment and, to a large extent the universe. Humans exist as individuals, separate from other people, with unique characteristics. Duffy (2009) stated that human beings are differentiated from other forms of life by features such as consciousness, the ability to reason and to move autonomously, and the capacity to use language. Duffy also mentioned that human beings have formal, religious perspectives on life, and this confers respect, dignity, and value for human life.

The caring relationship is a series of interactions between the healer and patient that facilitate healing. Characteristics of this interaction involve empathy, caring, love, warmth, trust, credibility, honesty, expectation, courtesy, respect, and communication (Dossey, 2003, p. A11). According to Janet F Quinn, Smith, Ritenbaugh, Swanson, and Watson (2003), combining elements of caring relationship give a fuller sense of the concepts of those physical, mental, social, and spiritual processes of recovery, repair, renewal, and transformations that increase wholeness.

In nursing, to grow the caring relationship between the nurse and patient, the nurse definitely needs to have love. The nurse who has love will create a therapeutic relationship in caring for the patients. Love is essential for human beings. The giving and receiving of love is something that is embedded within everyday nursing and caring practice. Love in the context of nursing is how nurses respond to their emotions, will, and volition (Stickley & Freshwater, 2002). So, the caring relationship is viewed as essential to the healing process of patients.

Caring needs action. Caring action involves a balance of the hand (skills) and the head (protocol and evidence) with the heart (ethical and human dimension) (Galvin, 2010). Nursing impacts on the health of individuals, families, groups, and populations through caring action, because nurse and patient interaction incorporates a wide range of attitudes and behaviours in the humanistic, relational and clinical domains of nursing practice and constitutes the main vehicles for promoting the quality of nursing care (Cowling, 2000).

Moreover, caring will result harmony of body, mind, and spirit for nurse and patient. The goal of caring in the context for holistic nursing is healing. Healing is as the emergence of the right relationship between a nurse and a patient. The right relationship between nurse and patient in caring will increase coherence of the whole body-mind-spirit, decrease disorder in the whole body-mind-spirit, maximizes free energy in the whole body-mind-spirit, maximizes freedom, autonomy, and choice in the whole body-mind-spirit, and increases the capacity for creative unfolding of the whole body-mind-spirit (Janet F. Quinn, 2009).

In most clinical theories and models, based on the consideration of human nature, the nursing concepts give the fact that in Islamic nursing context, human is regarded as a comprehensive whole, and caring is defined in the holistic framework. The comparison of the viewpoints of Islamic scholars with those of the western scientists with regard to caring, it shows that caring is the axiom of nursing. In addition, in the viewpoints, there is a kind of similarity in presenting services to the fellowmen.

The current challenges facing nursing internationally indicate an urgent need for nurses across diverse contexts to engage in the development of core disciplinary knowledge as a means to distinguish their profession's unique contribution from that of other disciplines and to capitalize on the full range of ideas available to the advancement of the profession. Within this context, a better understanding of the diverse conceptualizations of nursing is needed in order to ensure that nurses across all contexts can provide optimal care.

CONCLUSION

In general, in Islamic nursing, the following is taken into consideration: Caring and nursing are based on well-being improvement and healing, and concentration on all domains of nursing care and the relationship among different dimensions of human (bio-psycho-social-spiritual dimensions). The belief that while being needy, human is powerful and capable of reaching the highest levels of perfection. Paying attention to not only the material world of human but also his or her soul and spirituality dimensions.

Among the features that Islamic scholars consider for human and can be the basis of holistic nursing is that human is an accountable creature. Caring is regarded not only as a responsibility and social commitment but also as a holy and altruistic job, benevolence, and among the highest forms of worship. Because it is the caring of a creature that is a reality in a supreme position, which enjoys a divine nature, a heavenly element beautified with God's soul. These statements indicate the importance of Islam's humanistic approach toward human in the framework of believing in the reverence for human.

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REFERENCES

- Akhtar, S. G. (2002). Nursing with dignity. Part 8: Islam Retrieved December 16, 2012, 2012, from <http://www.nursingtimes.net/nursing-with-dignity-part-8-islam/206284.article>
- Al-Lahim, S. H. M. (1999). *The principles of Islam*. Riyadh: The ministry of Islamic affairs, endowments, propagation, and guidance.
- Barolia, R., & Karmaliani, R. (2008). Caring in nursing from an Islamic Perspective: A grounded theory approach. *International Journal for Human Caring*, 13(1), 55-63.
- Boykin, A., & Schoenhofer, S. O. (2001). *Nursing as caring*. Sudbury, Massachusetts: Jones and Bartlett
- Brilowski, G. a., & Wendler, M. C. (2004). An evolutionary concept analysis of caring. *Journal of Advanced Nursing*, 50, 641-650.
- Cossette, S., Pepin, J., Cote, J. K., & de Courval, F. P. (2008). The multidimensionality of caring: A confirmatory factor analysis of the Caring Nurse-Patient Interaction Short Scale. *Journal of Advanced Nursing*, 61(6), 699-710. doi: 10.1111/j.1365-2648.2007.04566.x

- Cowling, W. R. (2000). Healing as appreciating wholeness. *Advances in Nursing Science*, 22(3), 16-32.
- Dossey, L. (2003). Samueli conference on definitions and standards in healing research: Working definitions and terms. *Alternative Therapies in Health and Medicine*, 9(3), A10-12.
- Duffy, J. R. (2009). *Quality caring in nursing : Applying theory to clinical practice, education, and leadership*. New York, USA: Springer
- Galvin, K. T. (2010). Revisiting caring science: Some integrative ideas for the 'head, hand and heart' of critical care nursing practice. *British Association of Critical Care Nurses*, 15, 168-175.
- Ibrahim, I. A. (1999). A brief illustrated guide to understanding Islam Retrieved from www.islam-guide.com
- Islamic-Life Forums. (2009). Islamic beliefs and six pillars of faith, from <http://www.islamic-life.com/islamic-beliefs-pillars-faith/article-meaning-belief-allah>
- Leininger, M. M. (1988). *Caring an essential human need: Proceedings of the three national caring conferences*. Detroit, Michigan: Wayne State University.
- Locsin, R. C. (2005). Technological competency as caring and the practice of knowing persons as whole. In M. E. Parker (Ed.), *Nursing theories and nursing practice* (2nd ed., pp. 380-388). Philadelphia: F.A. .
- Mayeroff, M. (1971). *On caring*. New York: HarpenCollins Publisher.
- McCance, T. V., McKenna, H. P., & Boore, J. R. P. (1999). Caring: theoretical perspectives of relevance to nursing. *Journal of Advanced Nursing*, 30(6), 1388-1395. doi: 10.1046/j.1365-2648.1999.01214.x
- Mebrouk, J. (2008). Perception of nursing care: views of Saudi Arabian female nurses. *Contemporary Nurse: A Journal for the Australian Nursing Profession*, 28(1-2), 149-161. doi: 10.5172/conu.673.28.1-2.149
- Miklancie, M. A. (2007). Caring for Patients of Diverse Religious Traditions: Islam, a Way of Life for Muslims. *Home Healthcare Nurse*, 25(6), 413-417.
- Moher, D., Shamseer, L., Clarke, M., Gherzi, D., Liberati, A., Petticrew, M., . . . Group, P.-P. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. 4(1), 1-9. Retrieved from <http://www.systematicreviewsjournal.com/content/4/1/1> doi:doi:10.1186/2046-4053-4-1
- Power, C. (2007). Baring our selves Retrieved November 30, 2012, from <http://www.time.com/time/magazine/article/0,9171,1668236,00.html>
- Quinn, J. F. (2009). Transpersonal human caring and healing. In B. M. Dossey & L. Keegan (Eds.), *Holistic nursing a handbook for practice* (5 ed., pp. 91-99). Sudbury, Massachusetts: Jones and Bartlett.
- Quinn, J. F., Smith, M., Ritenbaugh, C., Swanson, K., & Watson, M. J. (2003). Research guidelines for assessing the impact of the healing relationship in clinical nursing. *Alternative Therapies in Health and Medicine*, 9(3), 65-79.
- Rassool, G. H. (2000). The crescent and Islam: healing, nursing and the spiritual dimension. Some considerations towards an understanding of the Islamic

- perspectives on caring. *Journal of Advanced Nursing*, 32(6), 1476-1484.
doi: 10.1046/j.1365-2648.2000.01614.x
- Ray, M. A. (2005). Marilyn Anne Ray's theory of bureaucratic caring. In M. E. Parker (Ed.), *Nursing theories and nursing practice* (2nd ed., pp. 360-379). Philadelphia: F.A. Davis Company.
- Ray, M. A. (2010). *Transcultural caring dynamics in nursing and health care*. Philadelphia, PA: F. A. Davis
- Schaefer, K. M. (2002). Reflections on caring narratives: Enhancing patterns of knowing. *Nursing Education Perspectives*, 23, 286-293.
- Stefan, M. (2010). *Islamic Beliefs and Practices*. New York, NY: Britania Educational.
- Stickley, T., & Freshwater, D. (2002). The art of loving and the therapeutic relationship. *Nursing Inquiry*, 9, 250-256.
- Watson, J. (2008). *Nursing: the philosophy and science of caring* (Revision ed.). Boulder, Colorado: The university press of Colorado.
- Watson, J., & Smith, M. C. (2002). Caring science and the science of unitary human beings: A trans-theoretical discourse for nursing knowledge development. *Journal of Advanced Nursing*, 37, 452-461.

ENHANCING NURSES EXPERIENCE IN COLLABORATION WITH THE PHYSICIANS IN THE EMERGENCY ROOM

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ABSTRACT

Background: *Physician and nurse were two professions most often associated with the emergency. A harmonious relationship between them could advance well collaboration in emergency room. It was obvious that a good collaboration could improve the healing of patients. However, nurses experience in building well collaboration with physicians was deeply necessary to require.*

Purpose: *The aim of this research was necessarily to explore the nurses comprehension on their experience in collaborating with the doctors in the emergency room.*

Method: *This research was advanced by using qualitative method with interpretive phenomenology approach. The number of respondents in this study was ten nurses labored in emergency room and was analyzed with Miles and Huberman.*

Results: *The results of this research were to obtaine eight themes namely the perceptions of nurses as physician subordinate, collaboration process, final decision determiner, against toward nurses status as physicians staffs, empathy in expecting the healing of patients, collaboration advocacy, collaboration obstacles, expectation to improve competence, self-esteem and admission as a nurse.*

Conclusions: *This experience could be basic education to furnish communication expertise to the physician and self skill equipment in the field of emergency and many other collaboration competences by practicing and interprofessional education. Some findings from the investigation of some respondents provided support for educational initiatives aimed to develop the collaboration practice of nurse-doctor within health care professionals at the emergency room in order to strengthen more collaboration among health care teams.*

Keywords: *collaboration, nurse, experience, physician*

BACKGROUND

The rising numbers of patients treated through the emergency department make a form of service require a collaboration of emergency team members. By the times the the more number of patients, the more interprofessional collaboration needs as a member of an emergency team require.^{1,4} Deficiency in

interprofessional collaboration sometimes occurs among the emergency team member.

Interprofessional collaboration requires great support from the emergency team members involved.²³ Interprofessional collaboration is crucial to meet the demand for safety standards and high-quality service. Interprofessional collaboration is indicated by a collaborative behavior to make interaction between a job in a professional manner and cooperative. The collaborative is behavior also used to share responsibility and runs interdependently.¹⁴ Lack of interprofessional collaboration and communication process this ultimately also would make a loss and threaten the safety of patients in the emergency room.¹⁰

The phenomenon that occurs shows that there is a surprising fact about the increasing report on a deficiency of collaboration and a communication among health care profession.¹⁰ The rise in the report may be ascertained having a negative effect on the provision of health services and in patients. This consequence is far beyond the levels of stress and frustration experienced by these professionals. The consequences also result in failure to heal the patient and errors of treatment.¹⁰

Nurse-doctor collaboration model has the structure, the process and output.⁷ Intensity of the collaboration, patient's health and increased job satisfaction would be obtained from the output. Structure, process and output might determine whether the collaboration is successful or not with communication as the basic relation of collaboration.²¹

It is very necessary to give good understanding based on the experience in collaboration between nurses and doctors in an emergency.¹³ The experience of nurse collaborated with the doctors need to known to contrive matter and strategy what should be prepared by nurse education and medicine in education interprofessional to increase collaboration.¹³

OBJECTIVE

The aim of this research was necessarily to explore the nurse's comprehension on their experience in collaborating with the doctors in the emergency room.

METHOD

Qualitative interpretive phenomenology method was used in this study. The research was held in Balangan Hospital, South Kalimantan, Indonesia. The respondents involved in this research were ten people with job experience 2 to 5 years. The reported findings of a research study was adhered to the National Statement on the Conduct of Human Research by the National Health and Medical Research Council of Indonesia and has been approved by ethical clearance from Balangan's Hospital.

The data were collected by using the method of semi structured interviews with approximately 30-45 minutes and was recorded with a recording device. The interview was then transcribed verbatim and analyzed based on Miles and Huberman approach to get the theme.

RESULT

The research results reveal six themes which consist of the perception of the nurse as a subordinate of a physician consisting of one sub themes namely doctor's maid, nurses defy their status as physician's assistants, an empathy by nurses to cure the patients, a supporting elements of collaboration, collaboration obstacles, the hope to improve of competence, esteem and recognition as a nurse.

First Theme: Doctor's Subordinate

Self awareness or perception of collaboration of nurses about how to look at himself after collaborating with a doctor is still as a subordinate who has duties and as an assistant that helps physician. The above fact is the first themeline of the research with the sub theme 'Physician's Assistant'.

Physician Assistant

The process of almost nurses' perception as physician assistants is preceded with a sense of stimulus which is perceived by the individual, organized, later on interpreted so that individuals are aware and understand what is felt and experienced so that it can establish the expected self-awareness. It is stated directly by the five respondents. The first respondent mentioned that a nurse is as a subordinate of doctors and works to help doctors.

"It is true that a nurse works as a subordinate of doctor, and his/her job is to help a doctor." (I 1)

Second Theme : Opposed To The Status Of Nurses As Maid

Nurses generally oppose to a circumstance that they are the subordinates although they express it impliedly and not explicitly in front of the doctor. This theme consists of three sub themes namely *unpleasant sense*, a protest on doctors that they do not touch the patient and nurses do the act of invasive.

Unpleasant Sense

A complaint occurs because the collaboration according to the nurse is that there should be equality to the doctor because of the different competence that can mutually support one another. But in fact, it has not occurred in reality. A respondent tried to express the feeling by explaining experience that ever happened such as uncomfortable feeling for being scolded by doctors, emotional and sometimes irresponsive in communication.

"Sometimes it was pleased, another time it was unpleasant, some were in high emotions, the others was neglecting, a senior, might taste bad mood, sometimes said who his doctor!!" (I5)

Protest for untouched patients by doctors

A nurse interprets that collaboration should be conducted by equally working to handle the patients by touching them. A respondent said that he/she has ever had a scene where his doctor came but did not touch patients that will be examined at all.

"...come but no touch" (I3)

Nurses did the act of invasive

The competences of nurses and physicians are something obvious. Doctors give drugs and nurses fulfil the basic human needs of patients through cares. The limit was noninvasive and action by nurses and practitioners can perform actions

of noninvasive. One of the respondents asked the authority limits of doctors' duties since nurses feel a lot of works which are not their competence like injection, an intravenous drip.

"...Until where boundaries work nurses until where employment doctor..."(I3)

Third Theme: Empathy to Patients

Empathy is a compassion shown by nurses to the patient. Third theme on this research was empathy to patients where this theme consists of one sub-theme namely heal of the patient.

Heal of the patients

This respondent revealed that in fact the reward was not so important for them, because the nurses work in accordance with maximum capability and care the patient all the time. They will do everything just to care patients or empathy to patients.

"...but in providing services we are not bound with appreciation. This reward is not so vital to us. All doings are only to restore health of patients because we work according to the instructions. We will work with ability and our hearts maximally to restore health of patients" (I4)

Fourth theme: the hope of increasing competence, rewards and recognition

Fourth theme in this research is the hope of improving the competence with three sub themes that follow; enhancing the competence, recognition and acknowledgment as a nurse.

Enhancing the competency

Improving the competence is a desire as a form of expectation from a desire to increase the self-capacity. Three of the five respondents stated that it is important to improve the competence of basic life support, and communication. It is revealed the respondents as follows:

"basic life support: Yes basic life support and communication"(I3)

Reward as a nurse

Rewards from other parties will create pleasure, confidence and passion for work more increasingly. The respondent expects to get accolades as a nurse. One respondent expressed the wish to get more than a reward now as follows:

"More and more honored in order to be awarded"(I1)

Recognition as a nurse

One of five respondents stated that the need for competence to improve collaboration with new skills could be used to dazzle the value and respect. He/She also stated that the need to rise up he competence to improve collaboration with new skills could be used to be more valued and respected and have a sense of trust then. He/She added then that confidence that arose when the doctor asked for collaboration to give one resuscitation action together. He/She also needed recognition as a nurse not as maid. An informer expressed as follows:

"Maybe it is not about appreciation, but a trust as a nurse very much"(I4)

Fifth Theme: supporting elements in collaboration

Fifth theme of this research is a collaborative elements which consists of two mutually subthemes namely mutual need and relaxed situation.

Mutual need

Mutual need is one of a collaboration intake identified as a factor which encourages or influences the process of collaboration, and collaboration between nurses and physicians. The respondents expressed as follows:

"Need each other, the nurse could not equally well because there is no instruction from the doctor, the doctor also can't work without nurses." (I1)

Relaxed situation

Relaxed situation defined as a situation that is comfortable to chat and exchange information. The informant's statement was expressed as follows:

"Usually the time to gather at the table when there is a patient while waiting for the results of laboratory or wait for more examples of our interaction is wasting of wait the patients" (I4)

Sixth Theme: A Barrier in Collaboration

The sixth theme at this research is inhibitors of collaboration consists of seven sub theme namely: doctors' absence for visitation in another room, the patient's family upset, fatigue, busy, drug shortages, lack of knowledge, complicated consultation procedures.

Doctors' Absence

Doctors' absence is one of the sub themes that inhibit collaboration. One respondent said that one barrier to collaborative relationships from this was when the doctor was not in place because of having another visitation and should serve in the inpatient. The respondent's statement was as follows:

"If that's duties, whether visite of space back or if don't do anything the patient had yes late"(I1)

Complaining families of patients

A barrier to collaboration is the patient's family when expressing their rampage and anger to the giver of good stewardship, both nurses and doctors. The respondent expressed as follows:

"I don't know what he said a long his waiting then showing his rampage here. It is in emergency room"(I1)

Fatigue

Collaboration will be hampered if body movement turns to slow down because of weariness. The informant said that a barrier to collaboration is the exhaustion, less passion and unwell health condition on nurse. The informant's statement was expressed as follows:

"Maybe, the physical problem like fatigue or unfitness will be a matter, Sir"(I2)

Drug shortages

The lack of utilities such as material infusion, normal saline, intravenous catheter, urine bag, verband, medicines and many others results in a hampered collaborative process. The stated as follows:

"Insufficient Infrastructures in hospital also can be a problem, for example the lack of medicines" (I2).

The Tasks of Administrative Complements

Complaints from nurses are too busy with the administrative work registration for patients coming in the afternoon and evening. The respondent mentioned:

“many of the current denial action and others, still we do nurse documentation, added asked again, the issue of documentation” (I 3)

Distinction of The science depth

The obstacles of the collaboration could occur due to the different depth of knowledge between doctors and nurses. The respondent said as follows:

“Barriers to collaboration may be in terms of difference professions itself. Yes, the difference on our profession as a nurse and a doctor, doctor has much deeper knowledge than us, that’s all may be” (I4)

Wasting Procedure of Consultation

A respondent said that collaboration would be obsacled was that the procedure of a consultation generally took a long time by a practitioner to wait a result of laboratory and roentgen. The respondent expressed:

“Yes, it can. Sometimes we have to wait to consult first, no answer and wasting indeed” (I5)

DISCUSSION

Nurse as a subordinate of a doctor

Nurses’ perception on doctor-nurse collaboration is still on how they look themselves as a maid of physician. The perception advances a psychological process preceded by the stimulus which is accepted by individuals, then interpreted so that individuals are aware of and understand about what to be felt and gone through to create sense of self-awareness. This is supported by a study said that nurse thought they were is subordinate to doctor.¹⁹ The finding also claims that the nurse subordination from the doctor can be defined by market cultures (external focus which derives from control, efficiency and productivity characterized by a tensed atmosphere, the centralized decision making, competitions and results-oriented), with the level of personal involvement influenced by the education level.¹⁹

A nurse often received treatment of abuse or violence in a verbal manner of a doctor.¹⁵ The most frequent and the most severe form of verbal reports were to assess, criticize, accuse, blame, and be anger; the most common was to get rage at the places of work. These findings support the position of nurses who take themselves as subordinates and assistants of doctor. Besides that, there is another opinion which claims that nurses are subordinate to doctors. Moreover, nurses are also identified as stereotypes gender, the default value of low academic and limited career opportunities.²

To oppose the status of a nurse as a subordinate

This disagreement status of nurses as subordinate happened because the nature of collaboration ought to put nurse equally to doctors since both nurses and doctors have some differences whose competences can be a mutual assistance. In

fact, it does not occur in reality. A respondent expressed his/her disagreement impliedly, not explicitly to the doctor. This condition can cause a verbal aggression by a doctor frequently. Nurse who got harassment spokenly or physically often experiences negative psychological impact after the incident.⁵

A nurse sometimes feels less satisfied with the circumstances. He reveals it by expressing some questions related with his competency and mentions the temperamental attitude of medical staffs toward nurses. There is a disagreeing manner in a situation where they had a conflict with respect to the act of professional health. This is caused by irrespective responds obtained to the nurses in the form of abuse or violence in a verbal manner of a doctor.^{3,15,16} The most frequent and the most severe form of verbal reports that assess and criticize, accuse and blame, and abusive rage and anger are the most common work place.¹⁵ It can bear a traumatic effect for nurses. In addition, nurses will continuously feel fear for making any medical action which cause possibility to quit.³ A form of frustration, dissent and protest of a nurse are expressed with negative opinion about unmanner doctor to nurse.

Empathy toward patients

Empathy is identical with the aspects of personality which has important roles in relation with interpersonal and facilitate competence through communication.⁸ This is a psychiatric process of someone who is brought to what others feel. A sense of empathy begins from the attitude over other people's suffering, compassion, sincerity to help patients from pain. Empathy will not be accomplished as a desire to perform an act, but requires emotional intelligence expressed through the understanding and emotional communication in value according to the views of the patient.^{8,11} Empathy composed by two dimensions: cognitive (perspective) and affective. Taking the perspective can increase work satisfaction, work engagement and reduce turnover intention. This research confirmed that the adoption of both perspective and affection dimensions have an impact in nurses that they will take affection dimension rather than the impact on welfare.¹⁸

The hope of increasing competence, awards and recognition

A nurse underlined the importance of competence to improve collaboration by performing skills at first, then he get value and respect. Informants said that they actually did not look for respect but more on trust. The respondent also requires recognition as a nurse not as a subordinate.

One strategy that facilitates an effective collaboration on nurse and doctor is to return and look back the benefits of communications when collaborating.⁹ This view would be followed by some discussions on self development either the expertise in the fields of emergency as basic life support, team development as training on collaboration that involves nurses or doctors or the development of communication that can sustain collaboration nurse doctor. In this case, communication is very important within the perception that nurse is a subordinate to doctor. The heal of patient would be hampered if there is still unmanner collaborative communication during the medical practice in the hospital.¹⁴

Hope and notion of physicians and nurses in collaboration practice are important in the process of patient care.¹⁷ The collaboration is built based on trust, with respect, communication and cooperation with other member of the team.¹⁷ Physician is expected to be able to demonstrate attentively, talk something in a positive way, ask using psychosocial questions and be a counselor for his nurse fellow in his team.¹⁷

Supporting Elements in Collaboration

In collaboration, nurses require physicians and doctors also need nurses.⁶ Therefore a doctor also needs to improve relations with nurses. Collaboration can be improved expectably when it is performed more sensitively, in humanity, with concern involvement, by respecting as professional and touch.⁶

Doctor requires communicative, advanced, and responsible nurses to be effective in providing services to cure by giving the patient suitable drug based on standardized administration. Doctor may also be frustrated by new worker whom he cannot perform good duties in providing services properly.²⁰

One of the recommended techniques for improving collaboration is to improve communication between doctors and nurses.²⁰ An uneffective communication can result in imbalance in hope that leads to frustration and discomfort in work.²⁰ When communication runs well, it will help and enhance flavor comfortable in an atmosphere of work and improve balance of expectation and results obtained.

The ruin in communication will lead to damage nurse-physician collaboration.²⁴ Effective communication requires a relaxed situation as it is comfortable to talk and share information. That situation can be obtained at a time when nurses and doctors sit down together in the ners station. One of the obstacles in communiation is the external disturbances where there is no self-interest and human's ability to think to control his mind in the comfortable communication.²² The casual and comfortable situation is obviously related to the absence of external disruption and here is the perfect time to communicate.

Barrier to collaboration

Collaboration is a complex process, requiring share of science in intensional and responsibility together in providing medical care to patients.⁹ The absence of doctors is caused by his double duties in emergency room and in the room inpatient as the consultant before being handled by specialist out of work hour.

The anger of patients' family is usually caused by a wasting-time service. The collaboration will not run well since it can be a psy affect of the doctors and nurses in providing service when a patient's family emotional, grumpy or rampage. Patient and his family are the leading figures of physical and verbal abuse for medical staffs. Alcohol, drugs post-traumatic stress, annoyance and fear last continuously. As a matter of fact, it can cause work disorientation.³

Fatigue and weariness experienced by nurses can lead to compassion fatigue and burn out which also role up as a barrier to an effective communication in collaboration.⁹ Whereas, collaboration has is an important element in communication. If a nurse does not apply self-recovery strategy, he will be lost of

affective inside of him for an unperiodic time. In fact, communication and collaboration process is going to be hampered.¹²

The lack of means provided by hospital also an inhibitor factor in collaboration. Nurses or doctors cannot work properly if some supporting materials and disposable drugs are not available in the hospital. This problem is not just about the conflict between nurses or doctors, but also organization of health institution as chief executive.²⁰

The difference of knowledge background depth can occur at the site of research because the average numbers of nurses working in a hospital are from diploma-graduate in nursing. Meanwhile, a doctor has the rank of a scholar and has undergone a profession for two years. The education and training are the factors that affects the collaborations.⁶The view that doctors have more knowledge depth than nurses because the difference of period in studying.

The length of time waiting by patient can be classified as a serious matter since it can make patient have a delayed time and lengthwise in emergency room. The nurses and physician must communicate with a patient and family, even in a difficult situation where bad news should be delivered despite of making a very difficult decision.⁹Physician and nurses must be in a great eager in order to reflect the power of communicating in all situations. There are some tips to communicate in a state of emergency; get the facts from trusted source directly; do not blow an issue more than its proportion; be quickly responsive in an equable manner; and just tell what to know according to the ethic code.⁹

CONCLUSIONS

The finding of the investigation forward to some respondents is that it provides support for the initiative of education aims to develop the practice of collaboration among nurses, doctor and other health professional who works in the emergency room. Professional Nursing Education needs to apply a curriculum about education and the application of collaboration with other professions. A recommendation for communication education, ethics and collaboration should be together accompanied by his application in practice. The goal of this education is that participants will gain knowledge and skill to perform and be successful in collaboration with other professions.

REFERENCES

1. Bleakley, A., Boyden, J., Hobbs, A., Walsh, L., & Allard, J. Improving teamwork climate in operating theatres : the shift from multiprofessionalism to interprofessionalism. *Journal of Interprofessional Care*. (2006); 20(5).461-70.
2. Brodie, D.A., *et al.* (2004). Perceptions of nursing : Confirmation, change and student experience. *International Journal of Nursing Studies*. 41(7). 721-733.
3. Brunetti, L., & Bambi, S. (2013). Aggressions towards nurses in emergency departements : An international literature review. *Prof Infirm*. 66(2). 109-16.
4. Collin, K., Valleala, U.M., Herranen, S., Viinikainen, S., & Paloniemi, S. (2011). *Interprofessional Collaboration during Ward Rounds in an Emergency and Infection Departement. Social Medicine*.2011.

5. Edward, K. L., Ousey, K., Warelow, P., & Lui, S. (2014). Nursing and aggression in the workplace : A systematic review. *BR J Nurs.* 93(12). 653-654.
6. Fagin, L., & Gareleck, A. (2004). The doctor –nurse relationship. *Advances In Psychiatric Treatment.* 10. 277-286.
7. Faria, C. (2009). *Nurse Practitioner Perceptions And Experiences Of Interprofessional Collaboration With Physician In Primary Health Care Settings.* (Thesis, Queen’s University Kingston Ontario Canada, 2009). Retrieved August 14, 2014, from https://qspace.library.queensu.ca/bitstream/1974/5188/1/Microsoft%20Word%20-%20Faria_Catherine_200909_MSCN.pdf
8. Hemmerdinger, J.M., Stoddart, S., & Lilford, R. (2007). A systematic review of test of empathy in medicine. *BMJ Med Educ.* 7(24). 1-8.
9. Lindeke, L. L., & Sieckert, A. M. (2005). Nurse-physician workplace collaboration. *The Online Journal of Issues In Nursing.* 10(1). Retrieved August 14, 2014, from: http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume102005/No1Jan05/tpc26_416011.html
10. Martin, J.S., Ummenhofer, W., Manser,T.,& Spirig, R.(2010). Inteprofessional collaboration among nurses and physicians : Making a difference in patient outcome. *Seiss Medical Weekly The European Journal of Medical Science.*1,p1-12.
11. Maatta, S. M. (2006). Closeness and dista ce in the nurse-patient relation. The relevance of Edith Stein’s concept of empathy. *Nursing Philosophy.* 7(1). 3-10
12. Maytum, J., Heiman, M., & Garwick, A. (2004). Compassion fatigue and burnout in nurses who work with children with chronic conditions and their families. *Journal of Pediatric Health Care* 18, 171-179.
13. McGrail, K. A., Morse, D. S., Glessner, T., & Gardner, K. (2008). What is found there : Qualitative analysis of physician-nurse collaboration stories. *J Gen Intern Med.*24(2). 198-204.
14. Nair, D.M., Fitzpatrick, J.J., McNulty, R., Click, E. R., & Glembocki, M.M. (2011). Frequency of nurse-phsician collaborative behaviors in acute care hospital. *Journal of Interprofessional Care*(2011). 1-6.
15. Oweis, A & Diabat, K. M. (2004). Jordanian nurses perception of physician’s verbal abuse : Findings from a questionnaire survey. *International Journal of Nursing Studies.* 42(8). 881-888.
16. Peter, E., Lunardi, V. L., & Macvarlane, A. Nursing resistance as ethical action : Literature Review. *Journal of Advanced Nursing.* 46(4). 403-416.
17. Rowen, L. (2010). The medical team model, the feminization of medicine and the nurse role. *American Medical Association Journal of Ethics.* 12(1). 46-51. Retrieved August 14, 2014, from: <http://virtualmentor.ama-assn.org/2010/01/oped1-1001.html>
18. Santo, D. L, Pohl, S., Saiani, L., & Adilgisa, B. (2013). Empathy in the emotional interactions with patients, is it positive for nurses too . *Journal of Nursing Education and Practice.* 4(2). 74-81.

19. Savic, B.S. & Pagon, M., (2008). Relationship between nurses and physicians in terms of organizational culture : Who is responsible for subordination of nurses?. *Croat Med J.* 2008. 49(3). 334-343. Retrieved August 14, 2014, from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2443617/>
20. School of Medicine University of Missouri. 2011. Physician and nurses : Friends or Foe. Retieved August 14, 2014, from :<http://ethics.missouri.edu/Relations.aspx#top>
21. Siegler, E.L., Whitney, F. W. (2002). *Kolaborasi Perawat-Dokter Perawatan Orang Dewasa Dan Lansia*. Jakarta: EGC.
22. Siringoringo, R. (2007). Komunikasi efektif. Retrieved August 14, 2014, from:
http://pusdiklatwas.bpkp.go.id/artikel/namafile/85/Komunikasi_efektif_-_respon.pdf.
23. Sterchi, S. (2007). Perceptions that affect physician-nurse collaboration in the perioperative setting. *Aorn Journal.* 86(1). 45-57.
24. Thuete, F., Lori., Friedrich, V., & Barbara. (2008). Interdisciplinary collaboration for healthcare professionals. *Nursing Administration Quaterly.* 32(1). 40-48. Retrieved August 14, 2014, from:
http://journals.lww.com/naqjournal/Abstract/2008/01000/Interdisciplinary_Collaboration_for_Healthcare.8.aspx

HOSPITAL SURVEY ON PATIENT SAFETY CULTURE FOR NURSING STAFFS IN WEST NUSA TENGGARA CENTRAL HOSPITAL

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ABSTRACT

Background: Developing a culture of safety is a core element of many efforts to improve patient safety and care quality. Patient safety culture is an important measure in assessing the quality of health care. There is a growing recognition of the need to establish a culture of hospital focused on patient safety.

Purpose : This study explores the attitudes and perceptions of patient safety culture for nursing staffs in west Nusa Tenggara Hospital by using a Hospital Survey on Patient Safety Culture (HSPOSC) questionnaire.

Method: We used the modified HSPOSC questionnaire to measure 10 dimensions of patient safety culture from 75 Nursing staffs in West Nusa Tenggara Hospital. We used SPSS 17.0 and Microsoft Excel 2010 to conduct the statistical analysis on survey data including descriptive statistics and validity and reliability of survey.

Result: This was a cross-sectional study, and distributed 75 questionnaires to nursing staffs in West Nusa Tenggara Hospital. The positive response rate for each item ranged from 40% to 90 %. The positive response rate on 5 dimensions (Teamwork Within Units, Organization Learning-Continuous Improvement, Communication Openness, Non-punitive Response and Teamwork Across Units) .

Conclusion: The results show the Nursing Staffs surveyed in West Nusa Tenggara Hospital there was a positive attitude towards the patient safety culture within their organizations.

Keywords: Patient Safety Culture, Hospital Questionnaire, Nursing staffs.

BACKGROUND

The patient safety is an issue which needs to concern for the health care system. Patient safety is the basic principal of health services considers that safety is the right for every patient to receive health care. Department of Health in Indonesia to make the rights of patients as the first standard in the seven patient safety standards at hospital. World Health Organization (WHO) through Colaborating center for patient safety solution in cooperation with the joint international comission enter patient safety by issuing six patient safety programe and nine programes guide patient safety solutions in the hospital. With the new paradigm of health care shift from safety into quality - safety is defined as not just a quality that should be improved, but also the safety of the patient because if the patient safety increases, the quality will increase as well. ¹

Patient safety is a system for giving care to safe for the patient, Canadian nurse association defines that giving true health care is decrease in unsafe acts to patients and the provision of the best action to obtain optimal health status of patients in the health care system. Patient safety is a state of the patients were free from unexpected injury or free from risky injury.

In 1999 the Institute of Medicine (IOM) in the USA stated that 44000-98000 / death caused by medical errors. 2000 IOM published "to err is human, building to a safer health system" this report proposed study in three hospitals in America. Utah and Colorado found unexpected event by 2.9% and 6.6% died. New york found adverse events by 3.7% and 13.6% died. In 2004 adverse events with a range from 3.2 to 16.6% occurred in America, England, Denmark and Australia. In 2011 in the United States found 1 of 3 patients who were hospitalized experienced adverse event. A study in 10 hospitals in Nort Colorina found 1 of 4 hospitalized patients and 63% experienced adverse event can be prevented. In Indonesia in 2007 adverse event reported by 46%, sentinel event 48% and other 6%. In 2006-2011 adverse event obtained 249 reports, 283 reports for sentinel event. 207 reports for Nursing units, 437 reports for Hospitalization, 64 for outpatient and 41 Reports for ICU.²

The 2012 data cannot be able to represent numbers sentinel event and adverse event which actually happened because adverse event and Sentinel event data is still hard to find for publication.

The west nusa tenggara Hospital of found 2 unexpected Genesis adverse event in 2014 but not reported and investigators could not mention the type of incident and event data. The interview with Patient safety team and Nursing Field mention that patient safety is still perceived not optimal and this is because the reporting of patient safety is often too late, resulting in the absence of learning over existing events, a lack of cooperation among workers with Patient safety team. So, the reports are derived from surveys and interviews conducted by Patient safety team. Interview with the head of the room found an incomplete guidelines related to the six target of patient safety. Interviews with nurses, they get socialization of application of patient safety from the head of the room and attended a seminar on patient safety and gain explanation about patient safety in college.³

Patient safety efforts to reduce the number of unexpected events at the hospital believed can create or build a culture of patient safety is the first step to achieve patient safety. CTF-RS and the National Patient Safety Agency emphasized that the first step towards patient safety by implementing a patient safety culture. Canadian Council on Health Services Accreditation (CCHSA) stated that every health care provider must implement patient safety culture in achieving patient safety.

Patient safety culture is the perception or attitude of every individual who is in the hospital to ensure patient safety. According to Health Research and Quality Agency, patient safety culture is divided into 12 dimensions. According to Charney & Clark, NPSA, Reason, reiling, patient safety culture consists of incident reporting, justice, cooperation, learning and communication.⁴

Based on the data and the phenomenon it is necessary to investigate the description of patient safety cultural in hospitals.

PURPOSE

Knowing the relationship between patient safety culture with the implementation of patient safety by nurses in West Nusa Tenggara hospitals in the year of 2015

METHODS

The research was conducted in west nusa tenggara hospital started January 2 to February 4, 2015. The study population and sample was 75 nurses in inpatient West Nusa Tenggara hospital. The sample was used cross sectional technique.⁵

This study used Descriptive survey design. It's a method of research conducted with the main objective is to create a objective description of a situation.⁶ Data collection obtained in two ways, namely primary data (results of questionnaires distribution to obtain information about patient safety culture through services from nurses) and secondary data from the hospital's profile, number of nurses, adverse event data, nosocomial infection data and other data related to support this study. The data collected is processed and analyzed with SPSS computerized system. Univariate analysis technique is used to describe the frequency distribution of the characteristics of respondents and each studied variable. Data presented in table list and narrative to discuss the research results.

RESULT

Characteristics of Respondents

Table 1 shows that 65 respondents (86.6%) of respondents were female while men are 10 respondents (13.3%); the majority of respondents were in the age range 20-29 years they are 35 respondents (46.6%) and the fewest respondents were in the age range of 50-59 years old (10.7%); most respondents are graduates from D3nursing, 45 respondents (60%); most of the respondents have 1-5 years working period; 30 (40%), and the rest have 6-10 years working period; 10 respondents (13.3%).

Univariate analysis

Aspects of hope and action of supervisors / managers in promoting patient safety is low. Based on Table 2, there were 35 respondents (46.6%) have a lower perception regarding the expectations and actions of supervisors / managers in promoting patient safety. Organization learning- continuous improvement of respondents is relatively high because 65 respondents (86.6%) have a perception of learning organizations-high continuous improvement. Teamwork in high unit is high. In accordance with the results of the study were 67 respondents (89.3%) are included in the category of cooperation in high unit. Disclosure of communication is high, 55 respondents (73.3%) included in the category of high openness of communication response is not to blame is high, 62 respondents (82.6%) included in the response categories do not blame is high. Feedback on the error is low because most have a perception which is included in the low category for feedback on the error that a total of 32 respondents (42.6%). Adequate staff is low because there are 33 respondents (44%) are included in the category of staff that is deemed adequate lower this number has a very large percentage. overall

perception of patient safety is low. This is because the number of respondents were classified in the low category on this aspect those are 33 respondents (44%). Support the hospital management are low as many as 36 respondents (48%) were included in the low categorized on the support of the hospital management for patient safety. Unit Teamwork is relatively high because most respondents included in the research agreement between uni team high as many as 58 respondents (77.3%). Surrender and transfer of pasien is low because many respondents are included in the low category until this aspect as many as 36 respondents (48%) which includes the low category for the delivery and transfer of patients. Frequency of occurrence reporting is low because as much as 27 respondents (36%) included in the low category to the frequency of reporting the incident.

DISCUSSION

Patient safety culture

Patient safety culture in hospital has a direct correlation with the implementation of service which is aimed at ensuring patient safety.⁷ Patient safety culture is affected by the transformational leadership in the organization.⁸ Looking the aspect of patient culture framer, basically almost all aspect has been well implemented. Just different in case report frequency, adequate staff, perception of patient safety and error feedback. All those four dimensions are low in the implementation (in range 36-45%). Adequate staff is also become a decisive factor in the implementation of patient safety culture. Less amount and poor quality of staff affected on the work load of nurses which is the biggest distribution factor that cause human error in nursery service. It is highly recommended to add the number of adequate staff to increase patient safety.⁹ Not to blame each other also high. It's because of the unreported error response will affect to the lost of chance for organization to learn, change and improve from patient safety. stated that professional staff is perfect so when an error is happening that cause psychological problem will affect to the decrease the working quality. Individual questions need to avoid and focus on problem. Nurses take part in improving communication with patient and other health staff.¹⁰ Communication is an exchange process of thought, feeling, opinion and advice between two people who are working together. Poor communication will make the process of organization to achieve the goal. The result of the study agree with theory from Mc Fadden et al (2009), it said that the degree of service implementation has correlation with patient safety in which affect to the patient safety output in form of frequency of incident genesis, perception and caution of patient safety.¹¹

CONCLUSION

The results show the Nursing Staffs surveyed in West Nusa Tenggara Hospital there was a positive attitude towards the patient safety culture within their organizations.

REFERENCES

1. Hsuann Y C yang C. 2-A-Multi-Level-of-Patient-Safety-Culture. Glob J Manag Bus Res. 2013
2. National Patient Safety Agency. Patient safety resources Monitoring patients with fractured ribs. 2011. <http://www.nrls.npsa.nhs.uk>
3. Cummings, et al. International Journal of Nursing Studies Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. Int J Nurs Stud Elsevier Ltd; 2010; Available from: <http://dx.doi.org>
4. Manser T. Teamwork and patient safety in dynamic domains of healthcare: A review of the literature. Acta Anaesthesiologica Scandinavica. 2009.
5. Hidayat AA. Metode penelitian keperawatan dan analisis data. Jakarta: Salemba Medika; 2011.
6. Notoatmodjo S. Metodologi Penelitian. Jakarta: Rineka Cipta; 2011.
7. Vincent CA, Coulter A. Patient safety: what about the patient? Qual Saf Health Care. 2002
8. Mcfadden KL, Henagan SC, Gowen CR. The patient safety chain: Transformational leadership 's effect on patient safety culture , initiatives , and outcomes. J Oper Manag Elsevier B.V.; 2009; Available from: <http://dx.doi.org>
9. Rudianti Y. Hubungan Komunikasi Organisasi Dengan Kinerja Surabaya Universitas Indonesia Surabaya. 2011.
10. Barrett J, Gifford C, Morey J, Risser D, Salisbury M. Enhancing patient safety through teamwork training. J Healthc Risk Manag. 2001
11. Rose Jeffrey S.et.all. Culture Change in Health Care. J Qual Patient Safety. 2006.

THE EFFECT OF FAMILY SUPPORT ON QUALITY OF LIFE OF PATIENTS WITH TYPE 2 DIABETES MELLITUS IN WORKING AREA OF PUSKESMAS SITU REGION OF NORTH SUMEDANG DISTRICT OF SUMEDANG

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ABSTRACT

Background: Type 2 Diabetes Mellitus (DM) is a chronic disease that can decrease the quality of life of sufferers. Quality of life of patients with Type 2 DM is influenced by several factors, one of them is family support.

Purpose: This study aimed to analyze the dimensions of empathy, encouragement, facilitative and participation as a reflector which can reflect family support construct, analyze the physical, psychological, social relationships and environment as a reflector which can reflect the quality of life construct, analyze the influence of family support on quality of life of patients with Type 2 DM in working area of Puskesmas Situ Kecamatan Sumedang Utara Kabupaten Sumedang.

Method: This research was conducted in September 2014. The respondents were Type 2 DM patients who were taken by nonprobability with consecutive sampling technique amounted to 50 people. This study used a quantitative method with cross sectional approach. Data collected by using a questionnaire on demographic characteristics, WHOQOL-Bref, and Hensarling's Diabetes Family Support Scale (HDFSS). The collected data were analyzed by multivariable analysis Structural Equation Modeling (SEM) using software tools Partial Least Square (Smart-PLS).

Results: The results showed that reflector empathy, encouragement, facilitative and participation able to reflected the family support construct, and encouragement is most reflected reflector the family support construct (loading factor = 0.829). Reflector physical, psychological, social relationships and environment able to reflected the quality of life construct. There was a significant effect between family support on quality of life (t -statistics=15,366). According to overall model, the family support had 40.3% effected on the quality of life of patients with Type 2 DM ($R^2 = 0,403$).

Conclusion: Family support had a positive influence on the quality of life of patients with Type 2 DM, it is important for community nurses to assess the family support in the assessment of nursing care to patients with Type 2 DM. Community nurses can role as facilitators and educators to increase the family support

especially encouragement so that the quality of life of patients with Type 2 DM can be increased.

Keywords: *Family Support, Quality of Life, SEM, Type 2 Diabetes Mellitus*

BACKGROUND

Diabetes Mellitus (DM) is a heterogeneous disorders indicated by the increase in blood glucose levels or hyperglycemia (Smeltzer & Bare, 2002). The incidence of diabetes is increase in the world from year to year, the latest data from the World Health Organization (WHO) show in 2000 there are 150 million people worldwide suffer from diabetes and this figure will be doubled by 2025. The increase in number of patients with this disease will occur in developing countries, including Indonesia, due to population growth, aging, unhealthy diet, obesity and lack of physical activity (WHO, 2014).

Pratiwi (2007) in Aini, Fatmaningrum and Joseph (2011) stated that treatment of diabetes requires a long time since diabetes is a chronic disease that will suffer a lifetime and very complex because it requires not only treatment but also lifestyle changes, this causes the patients often tend to be broken up with a therapy program. This condition can affect the functional capacity of the physical, psychological and social health and well-being of people with diabetes was defined as the quality of life (QOL). According to the WHO, quality of life is the individual's perception of their position in life and cultural context and value systems in which they live and in relation to individual goals, expectations, standards and concerns (WHO, 2004).

Several studies conducted in developing countries and developed countries indicated that DM has a strong negative impact on quality of life. A research by Eljedi, Mikolajczyk, Kraemer & Laaser (2006) conducted in Palestine indicated that all domains of quality of life of patients DM decreased quite large compared to the quality of life of the normal population as a control group of physical health domain (36.7 vs 75 , 9 of the score range 0-100), psychological domains (34.8 vs. 70.0), the domain of social relationships (52.4 vs. 71.4) and environmental domains (23.4 vs. 36.2). Similarly, research conducted by Jin, Dong, Dong and Min (2012) in Korea earned a median score of -2.73 ADDQol impact of weight indicating an overall negative impact on the quality of life of diabetic patients. Research by Verma, Luo, Subramanian, Sum, Stahl, et al (2010) in Singapore showed that of the eight domains of quality of life were examined, five domains of which showed a decreased in the quality of life of patients with diabetes compared with the general population as a control group, while the three domains others showed the same results. In Indonesia, the research conducted Larasati (2012) in the Hospital Abdul Moeloek Lampung obtained a description of the 89 respondents that Type 2 diabetic patients as much as 59.6% had a moderate quality of life, 27.0% have a good quality of life and 13.5% had poor quality of life.

Yusra (2010) in his research conducted at Hospital Fatmawati Jakarta indicated the status of the quality of life of patients with Type 2 diabetes have to do with age (p value = 0.034, r = -0.194), education (p value = 0.001),

complications of diabetes (p value = 0.001), and family support (p value = 0.001, r = 0.703). This study suggested that family support is one of the factors that have a strong relationship with quality of life of patients with diabetes mellitus type 2. Another study using the Path Model made by Misra & Lager (2008) to 180 adult patients with Type 2 diabetes in Texas results that high levels of social support can improve patient acceptance of the disease and can reduce the perceived difficulty in self-care behaviors that ultimately lead to the improvement of the quality of life of patients.

Family support is defined as a part of social support, is a form of interaction between individuals who provide physical and psychological comfort through the fulfillment of the need for affection and security. Hensarling (2009) divided into four dimensions of family support i.e empathetic support dimension, encouragement dimension, facilitative dimension, and participative dimension. Each dimension is important to understand by families who have family members with diabetes Type 2 because it involves the perception of the existence and accuracy of support for someone. Family support not only provide relief, but the important thing is how the perception of the meaning of the aid recipient (Koentjoro, 2002).

It has been previously described that research on the influence of family support for the patient's quality of life have been carried out by several previous investigators and showed a significant effect. As these studies describe family support in general and not specific to patients with diabetes mellitus type 2. Research on specific family support in patients with Type 2 diabetes mellitus in terms of four dimensions of empathy, encouragement, facilitative, and participation associated with the four domains of quality of life still a bit done. Therefore, it is important to do research on the effects of family support in terms of four dimensions of family support for quality of life of patients with Type 2 diabetes mellitus.

METHODS

This study used quantitative methods with cross-sectional approach, observation or data collection as well at some point (point time approach). the research was conducted in working area of Puskesmas Situ Region Of North Sumedang District Of Sumedang on 11 to 27 September 2014. The population in this study were all patients with Type 2 diabetes who are domiciled in Region Of North Sumedang District Of Sumedang. This sampling method using a non-probability sampling with purposive sampling technique sampling based on a certain considerations made by researchers amounted to 50 respondents. Sample inclusion criteria of this study were patients with Type 2 diabetes who have a family, being able to write, read and speak Indonesian, willing to be a research respondents, while the sample exclusion criteria for this study is the client feel dizziness, pain, or decreased consciousness.

The independent variable in this study is the family support. Family support is reflected by four reflectors i.e empathetic dimension, encouragement dimension, facilitative dimension, and participative dimension. While the dependent variable is the quality of life of patients with Type 2 diabetes which is

reflected by the reflector are four domains of physical health, psychological health, social relationships, and environment.

Researchers used three types of questionnaires, namely a questionnaire on demographic characteristics, family support and quality of life of patients with diabetes mellitus type 2. Questionnaire respondent characteristics include age, gender, education level, socioeconomic status / income per month, long suffering from diabetes and complications of diabetes. Questionnaire about family support was adopted from Hensarling's Diabetes Family Support Scale (HDFSS) which has been translated into Indonesian developed by Hensarling (2009). Quality of life questionnaire used questionnaires of WHO concise form (WHOQOL-Bref) which have also been translated into Indonesian.

Before the measuring instrument is used, the researchers to test the validity and reliability of the instrument family support to 14 patients with diabetes mellitus type 2. Data collection was conducted by the researchers themselves, by first determining the respondents who met the inclusion criteria. After getting the data of potential respondents from health centers, researchers then visited the homes of potential respondents and explain the intent and purpose of the visit, the procedures for research, benefits, confidentiality of data provided and willingness to ask the respondents. After the respondents were asked to fill out the three types of questionnaires that had been prepared that demographic questionnaire, family support, and quality of life. Respondents were read and fill out questionnaires by themselves, assisted by researchers that explained the purpose of the questions in the questionnaire if there were not understood by the respondent. After the questionnaires filled out by respondents, the researchers then re-examine the completeness of the answers that have been filled in by the respondent. The data analysis techniques in this study using analysis Multivariable Structural Equation Modeling (SEM) using software tools Partial Least Square (Smart-PLS).

RESULTS AND DISCUSSION

After tabulation of the 50 questionnaires, it can be served distribution characteristics of respondents by age, gender, education level, number of income, suffered complication of Type 2 DM, and long suffering of Type 2 DM as an overview of the research subjects.

Table 4.1 Frequency Statistics of Respondents by Age and Type 2 DM Long Suffering Type 2 diabetes (n = 50)

| Characteristics | Mean | Median | Modus | Minimal | Maksimal | SD |
|-----------------------------------|------|--------|-------|---------|----------|------|
| Age (year) | 55,6 | 56,0 | 48 | 29 | 81 | 11,7 |
| Long suffring of Type 2 DM (year) | 7,0 | 5,0 | 2 | 1 | 30 | 6,3 |

The results in Table 4.1 Frequency statistics showed that the average age of respondents was 55.6 years with the youngest is 29 years old and the oldest was 81 years old, while 50 respondents. Furthermore, the average length of respondents suffering from Type 2 diabetes is 7 years old suffering from the shortest is 1 year and the longest was 30 years.

Table 4.2 Frequency Distribution of Respondents by Gender, Education Level, Total Income, and Complications of Type 2 diabetes mellitus (n = 50)

| Karakteristik | Frequency | Percentage (%) |
|----------------------------|-----------|----------------|
| Gender | | |
| Male | 18 | 36 |
| Female | 32 | 64 |
| Education level | | |
| Never | 1 | 2 |
| SD | 26 | 52 |
| SMP | 13 | 26 |
| SMA | 9 | 18 |
| PT | 1 | 2 |
| Total income | | |
| <UMR | 12 | 24 |
| ≥UMR | 38 | 76 |
| Complications of Type 2 DM | | |
| Yes | 31 | 62 |
| No | 19 | 38 |

In Table 4.2 illustrates respondents who have Type 2 DM are mostly women (64%), and is the most elementary level of education (52%). Next to the amount of monthly income earned respondents found that most respondents (76%) earn more than the average minimum wage Sumedang District Rp. 1.381.700, -, and the majority of respondents (62%) had complications of DM.

SEM analysis of research data consisted of testing the outer model (model of measurement) and inner model (structural models). Outer model is a model that specifies the relationship between the constructs with variable-reflector or reflector can be said that the outer reflector models define how each describe konstruksinya.

Table 4.7 Loading Factor and Cross Loading Each reflector to Construct

| Reflektor | Dukungan Keluarga | Kualitas Hidup |
|---------------|-------------------|----------------|
| Empathetic | 0,828 | 0,599 |
| Encouragement | 0,829 | 0,482 |
| Facilitative | 0,765 | 0,418 |
| Participative | 0,614 | 0,402 |
| Physical | 0,345 | 0,733 |
| Psychological | 0,501 | 0,800 |
| Social | 0,621 | 0,820 |
| Environment | 0,354 | 0,636 |

From Table 4.7 it is known that all values of the loading factor reflector family support and quality of life is greater than 0.5 (gray), this indicates that the convergent validity of each reflector is valid and able to reflect konstruksinya well. Convergent validity of the smallest value is on participatory reflector (0.614) and most of it is on the encouragement reflector (0,829).

The value of the discriminant validity of the correlation seen each reflector to it's construct have a higher value than the reflector correlation with other constructs. For example, the value of empathy higher loading factor to construct a family support than the construct of quality of life (0.599). Thus with a boost factor loading value, facilitative and participatory, so that the

construct of family support is able to predict the value of all reflector loading factor is higher than the construct of quality of life. In contrast to the reflector physical, psychological, social and environmental, quality of life construct capable of predicting the loading factor is higher than the construct of family support.

Table 4.8 Value AVE, Composite Reliability, and Cronbach's alpha

| Construct variable | AVE | Composite Reliability | Cronbach's alpha |
|--------------------|-------|-----------------------|------------------|
| Family support | 0,584 | 0,847 | 0,759 |
| Quality of life | 0,563 | 0,836 | 0,745 |

From Table 4.8, it is known that family support and quality of life has value AVE is greater than 0.5 so that it can be said quite good measurement model. In addition, note also the value of family support construct composite reliability and quality of life is greater than 0.8 so that it can be concluded that the construct has a high reliability. Similarly, it is known that the value of Cronbach's alpha of more than 0.6, thus said to be reliable.

Inner evaluation model of this study can be viewed using the value of the path coefficients and t-statistics are presented in Table 4.10:

Table 4.10 Value Line Structural Coefficients and Significance Testing Hypotheses (Path Coefficients)

| | <i>Original Sample (O)</i> | <i>Sample Mean (M)</i> | <i>Standard Deviation (STDEV)</i> | <i>Standard Error (STERR)</i> | <i>t Statistics (O/STERR)</i> |
|-----------------------|----------------------------|------------------------|-----------------------------------|-------------------------------|---------------------------------|
| Family Support -> QoL | 0,635 | 0,655 | 0,041 | 0,041 | 15,366 |

Based on Table 4.10 coefficient values obtained structural lines of family support on quality of life of 0.635, so the structural equation model is obtained as follows:

$$\eta = \beta\xi + \zeta$$

$$\text{QoL} = 0,635 \text{ FS} + 0,041$$

Specification:

QoL = Quality of life

FS = Family Support

β = Coefficient of variables influence of family support on quality of life

ζ = Residual or Error

If depicted, the model can be presented as follows:

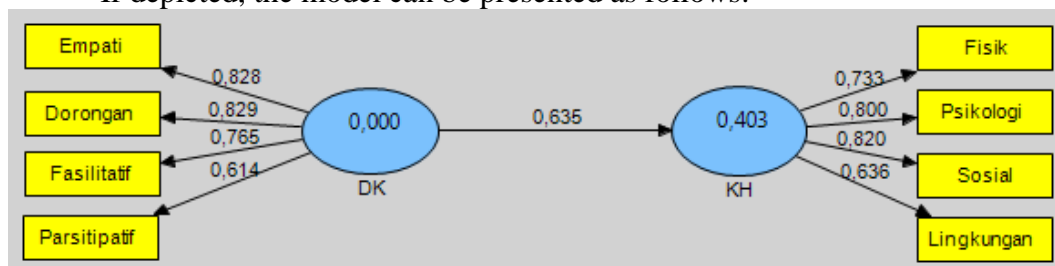


Figure 4.1 Value Path Coefficient

From 4.10 tables also can be seen that in this test the value of the t-statistik (15.366) is greater than t-table (1.96) for a significance level of 5%, so it can be concluded family support has a significant influence on quality of life. To see the effect of each variable percentage of latent exogenous to endogenous variables, the following are presented partial and simultaneous determination coefficient (R²) which is the product of structural lines with correlation coefficients with endogenous latent variables.

Table 4.11 Analysis of coefficient of determination (R²)

| | Structural Path Coefficient | Correlations with QoL | R ² (%) |
|-----------|--------------------------------|-----------------------|--------------------|
| FS--> QoL | 0,635 | 0,635 | 40,3 |

Based on the table above, note that the value of R² is 0.403, meaning that the support of family influence on the quality of life of 40.3%, while the remaining 59.7% is the influence of other variables not examined. Hypothesis testing is done to see whether the influence exerted by both exogenous latent variables is significant or not. To test this, we used the t that has been presented in Table 4.11, t-value for the variable family support on quality of life obtained by 15.366. This value is greater than the critical point of 1.96 (t-table value at $\alpha = 5\%$), so it can be concluded family support shown to have a significant effect on quality of life by contributing effect of 40.3%.

These results indirectly support the theory of Green (1999). In theory, Green stated that one of the factors amplifier (reinforcing factors) that determine the behavior of a person's health is family support. In patients with Type 2 diabetes, health behavior is reflected in patient adherence to therapy management that led to the improvement of the quality of life of patients. This is also evidenced by Yusra (2010) which showed that there is a strong and significant relationship between family support with quality of life of patients with Type 2 diabetes mellitus (p value = 0.001, r = 0.703).

Soegondo (2006) argues that the family have an influence on attitudes and learning needs of people with diabetes by refusing or provide support for physical, psychological, emotional, and social. DM patients will have a more positive attitude to learn DM if a family to support and participate in health education about diabetes. In contrast, patients with DM will be negative in the event of a rejection of the patient and the absence of family support during treatment. Negative attitude towards the disease and treatment will result in the failure of the therapeutic management of diabetes mellitus. This can affect the quality of life and social skills of the patient.

Similar to the research conducted by Goz et al (2007), that in patients with DM required for metabolic control may affect the lifestyle of the patient (in the use of insulin therapy and oral antidiabetics), food, blood sugar measurements and exercise. This can be achieved with the participation or involvement of the family. The existence experience difficulties for patients, families and the complications that may arise when patients adapt with all the changes that will occur will have a negative impact on quality of life.

According Antari, Rasdini and Triyani (2011), in the presence of social support to help people with type 2 diabetes mellitus to improve confidence in the ability to perform self-care. Patients with good social support will have a safe and

comfortable feeling that will grow a sense of attention to yourself and increase the motivation to undertake the management of the disease. This condition will prevent the emergence of stress in patients with type 2 diabetes can be understood if patients with type 2 diabetes experience stress, of course, this will affect bodily functions. Stress will lead to an upsurge of cortisol in the body that will affect the increase in blood glucose levels by increasing gluconeogenesis, fat and protein catabolism. Cortisol also will interfere with the uptake of glucose by the cells of the body that can affect blood glucose levels. This condition can lead to imbalances in blood sugar levels and if this is the case for a long time then it will increase the risk of complications. In the end it will affect the quality of life of patients with type 2 diabetes mellitus.

According to researchers, adequate family support will improve the physical health of people with Type 2 diabetes by reducing symptoms of depression. In addition, family support can also improve the adaptive ability of cognitive including increased optimism Type 2 diabetic patients, reducing loneliness and improve themselves in the management of diabetes mellitus type 2. This will reduce the risk of complications and improve quality of life. In other words, the better the support of families will be better the quality of life of patients with Type 2 diabetes mellitus.

The nurse as a provider of comprehensive nursing care plays a role in improving family health function. In Indonesia, family nursing care assessment process by community nurses refer to the assessment format according to Friedman. In the assessment format, Friedman outlines eight components that must be examined in the family, the general data (demographics), family history and stage of development, the state of the environment, family structure, family functioning, family stress and coping, health checks each member of the family, and family expectations.

Remember the importance of family support for quality of life of patients with chronic diseases, especially Type 2 diabetic patients, in addition to the eight components, the researchers argue that it is important to examine aspects of family support. By knowing how much support the family on family members who suffer from Type 2 diabetes, the nurse can take appropriate nursing interventions. Ways that can be done by nurses to improve family support is to provide knowledge in the form of health education and counseling to patients and families. In providing health education and counseling is important to know how the patient acceptance of family support were obtained. The acceptance by the individual's own family support as has been discussed in the literature is influenced by three factors: intimacy, self-esteem, and skills themselves. The role of the nurse as a facilitator is very important to explore and enhance these three factors in order to obtain a high family support.

CONCLUSIONS AND RECOMMENDATIONS

Based on the hypothesis test results can be summarized as follows:

- 1) The dimensions of empathy, encouragement, facilitative and participation is a reflector which can reflect the construct of family support. From the fourth reflector, reflector encouragement is the most reflect the construct of family support.

- 2) The dimensions of physical, psychological, social relationships and environment is a reflector which can reflect the construct of quality of life. From the fourth reflector, reflector aspects of social relations is the most reflect the construct of quality of life.
- 3) Support families significantly affect the quality of life of patients with Type 2 diabetes mellitus in Puskesmas Situ Northern District of Sumedang Sumedang District.
- 4) Overall the model, construct family support significantly by 40.3% impact on the quality of life of patients with Type 2 diabetes mellitus in Puskesmas Situ Sumedang Sumedang District North District.

Theoretical suggestions of this research is conducted further research with reference to the results of this research on appropriate and effective interventions to improve family support described by reflectors empathy, encouragement, facilitative and participatory in an effort to improve the quality of life of patients with diabetes mellitus type 2. In addition, because family support has amounted to 40.3% influence on the quality of life of patients with Type 2 diabetes, it is necessary to do further research about 59.7% other factors that also affect the quality of life of patients with Type 2 DM.

As for practical advice, the first is a community nurse should be able to do the assessment (assessment) of the questionnaire HDFSS family support in the provision of nursing care to patients with diabetes mellitus type 2. The second, a community nurse should be able to act as a facilitator and educator in improving family support, especially form of encouragement (encouragement) in patients with Type 2 diabetes in order to increase the patient's quality of life.

REFERENCES

- Aini, N., Fatmaningrum, W., & Yusuf, A. (2011). Upaya Meningkatkan Perilaku Pasien dalam Tatalaksana Diabetes Mellitus dengan Pendekatan Teori Model Behavioral System Dorothy E. Johnson. *Jurnal Ners*, Vol.6, No.1
- Antari, G.A.A., Rasdini, I.G.A., & Triyani, G.A.P. (2011). *Besar Pengaruh Dukungan Sosial terhadap Kualitas Hidup pada Penderita Diabetes Melitus Tipe 2 di Poliklinik Interna RSUP Sanglah*. Access from <http://www.unud.ac.id> pada tanggal 13 Juni 2014
- Eljedi, A., Mikolajczyk, R.T., Kraemer, A., & Laaser, U. (2006). Health-related Quality of Life in Diabetic Patients and Controls without Diabetes in Refugee Camps in the Gaza Strip: A Cross-sectional Study. *Biomed Central Public Health*, 6: 268
- Goz, F., Karaoz, S., Goz, M., Ekiz, S., & Cetin, I. (2007). Effect of diabetic patient's perceived social support on their quality of life. *Journal of Clinical Nursing*, 16, 1353-1360
- Green. L.W., & Kreuter, M.W. (1999). *Health Promoting Planning an Educational and Environmental Approach, 2nd Edition*. Mountain View: Mayfield Publishing Company
- Hensarling, J. (2009). *Development and Psychometric Testing of Hensarling's Diabetes Family Support Scale*. Texas: Proquest, UMI Dissertation Publishing

- Jin, O.C., Dong, H.C., Dong, J.C., & Min, Y.C. (2012). Assessment of Factors Associated with the Quality of Life in Korean Type 2 Diabetic Patients. *Internal Medicine*, 52: 179-185.
- Koentjoro, W. (2002). *Pendekatan Dukungan Sosial Keluarga*. Diakses dari <http://www.e-psikologi.com/index.php> pada tanggal 13 Juni 2014
- Larasati, T.A. (2012). Kualitas Hidup Pasien Diabetes Melitus Tipe 2 di RS Abdul Moeloek Propinsi Lampung. *Jurnal Kedokteran dan Kesehatan Universitas Lampung*, Vol.2, No.2, 17-20
- Misra, R & Lager, J. (2008). Predictors of Quality of Life among Adults with Type 2 Diabetes Mellitus. *Journal of Diabetes and Its Complications*, Vol.22, Issue 3, 217-223
- Smeltzer, S.C. & Bare, B.G. (2002). *Buku Ajar Keperawatan Medikal Bedah Brunner & Suddarth Edisi 8*. Jakarta: EGC
- Soegondo, S. (2009). *Panduan Penatalaksanaan Diabetes Mellitus Bagi Dokter dan Edukator Diabetes: Penatalaksanaan Diabetes Mellitus Terpadu*. Jakarta: Balai Pustaka FKUI
- Verma, S.K., Luo, N., Subramaniam, M., Sum, C.F., Stahl, D., et al (2010). Impact of Depression on Health Related Quality of Life in Patients with Diabetes. *Diabetes and Quality of Life*, Vo.39 No.12, 913-919
- WHO. (2004). *WHOQOL Instrument Users Manual*. Diakses dari http://apps.who.int/iris/bitstream/10665/77776/1/WHO_MSD_MER_Rev.2_012.03_eng.pdf?ua=1 pada tanggal 4 Maret 2014
- WHO. (2014). *Diabetes Melitus*. WHO News: Fact Sheets. Diakses dari: <http://www.who.int/mediacentre/factsheets/fs138/en/> pada tanggal 1 April 2014
- Yusra, A. (2011). *Hubungan antara Dukungan Keluarga dengan Kualitas Hidup Pasien Diabetes Melitus Tipe 2 di Poliklinik Penyakit Dalam Rumah Sakit Umum Pusat Fatmawati Jakarta*. Tesis: Universitas Indonesia. Tidak dipublikasikan.

LIVING WITH BREAST CANCER AND CHOOSING THERAPIES FOR BREAST CANCER PATIENTS

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ABSTRACT

Background: Generally, breast cancer has a great influence on the emotional state of women, especially those who are in reproductive age, as well as their productivity and social status in the society. Indonesia is one of the countries where the prevalence of breast cancer case is high. Indonesia also has been generally regarded as a typically developing country with a pluralistic medical system. Medical pluralism can be regarded as "pluralistic structures in different kinds of practitioners and institutional norms". In the pluralistic medical system, there are various choices of treatment for breast cancer: (1) conventional / modern medicine; (2) traditional medicine; (3) Transitional or Complementary and Alternative Medicine (CAM).

Objective: This study is important for health providers as it could contribute to: (1) the understanding of breast cancer patients, with their disease and experience of illness; (2) providing information on breast cancer therapy choices of patients; (3) providing necessary information in order to improve the breast cancer preventive and promotive strategies, as well as the health practices in relation to breast cancer as serious diseases requires long-term care and cure.

Methods: The design of the study is qualitative research, focusing on the understanding the breast cancer patients' experience regarding their illness and the process of choosing therapies. This qualitative study used a non probability, purposeful sampling method, with the number of sampling: 17 breast cancer patients. The data were collected through in-depth interviews and the analysis of document and archives. The thematic analysis was conducted interpret the results.

Results: Based on the analysis of data through qualitative study, there were four predominant emerging topics as regards to patients' perception on breast cancer and the process of choosing therapies: 1) Cancer illness is (perceived as) a subjective concept and legalized by socio culture; 2) Therapy options received by social support; 3) Recovery perception on every therapy option; 4) The positive meaning of illness in life; 5) The high hope for recovery.

Discussion: According to research, nausea and vomiting symptoms also significantly affect the nutritional status, physical function, anxiety and quality of life of patients. Besides the negative psychological reactions that can occur are changes in mood (more emotional), stress, depression (Ferrel, Dow and Grant, 2010). Thus, the presence of primary medical therapy side effects calls for comprehensive action in dealing with breast cancer patients.

Conclusion: Breast cancer patients should be understood as a whole subjective agent having connection between the body as a physical entity and other aspects of life, such as psychological, social and spiritual. The reconstruction of all

components (physical, psychological, social, spiritual) is already part of the illness experience.

Keywords: *breast cancer patients, experience of illness, choosing therapies*

BACKGROUND

The World Health Organization (WHO) mentions about the goal of Primary Health Care strategy to consider the non-medical factor issues, such as socio-economic and cultural aspects, in determining the health determinants and utilization of health services. Indonesia has a National Health System which covers Health Education System and Health Services. Consequently, as an integral part of the health system in Indonesia, the health education system and the health care services should be able to accommodate an interactive process of care between patients, community needs and provider demands. Therefore it need an ideal form of health system that is holistic, comprehensive and integrated with the ability to empower clients and patients.

Malignant tumor or cancer is one of the high prevalent diseases and the cause of deaths in Indonesia. And breast cancer places on the top of cancer types among others suffered by women. The WHO (2013) states specifically that about 508,000 women died of breast cancer in 2011. Breast cancer generally occurs in the group of post menopause women; although it is also commonly found among women in the young age, like below 25 years old. Furthermore, breast cancer affects the existence and well-being of women, not only physically, but also emotionally/psychologically, socially and spiritually, especially to those who are in reproductive age and whose role are wives and mothers.

In particular, the data of breast cancer in the *RS Dharmais*, Jakarta, shows an increase in number of cases, from 221 in 2003 to 657 cases in 2008. And unfortunately 60-70% of patients coming to the hospital are diagnosed with advanced cancer stages. The problem faced by breast cancer patients, both the diagnosis and treatment selection, is multidimensional, taking into consideration the physical, social, psychological and spiritual problems, without neglecting, of course, the socio-economic and cultural aspects. In addition, the patient and her family often encounter the problems related to the knowledge about breast cancer at early and advanced stage, the difficulty in selecting therapy and treatment, whether to use modern therapy or others, such as alternative and complementary therapy.

In relation to the health care service chosen by the patient, the data from the interview with nurses at Hasan Sadikin Hospital, Bandung, show that almost 70% of patients with breast cancer stopped chemotherapy and many breast cancer patients did not perform pre-surgery chemotherapy after being diagnosed with early-stage breast cancer. Instead they prefer to take alternative treatment. Furthermore, the follow-up survey that involved 36 breast cancer patients revealed that there are several reasons which motivate patients to use complementary and alternative therapies, namely: to assist the body in the recovery process (75%), to improve the immune system (56%), and out of the feeling of having done something in her therapy (56%). Besides, as many as 88% of respondents said that they used complementary or alternative therapy with modern therapy in the same time.

Based on the study of health sciences, complementary therapy is one of the methods for the health professionals, in this case the nurse, to create a therapeutic environment by empowering the patient herself to be the healing agent for self-recovery from health problems. The complementary therapy here is defined as a therapy used in conjunction with conventional medical therapy. Complementary therapy is very closely associated with herbal therapy. In fact, in the last few decades, the use of herbal medicine derived from phytochemicals is intended not only for nutritional supplements and cosmetics, but also for medical purposes.

OBJECTIVE

The implementation of integrative health (conventional and complementary therapies) in Indonesia -- despite of its development which starting to extend and reach out to some service systems, for example in some government referral hospital-- still raises many questions, particularly among health professionals. Although it cannot be denied that some health professionals are also well aware that some conventional nursing therapies are actually rooted in and derived from modality and complementary therapies.

Reviewing issues related to the needs of breast cancer patients as regards to types of chosen therapy, as well as the high number of complementary therapy and herbal medicine as the choice of breast cancer patient, it is necessary to make health science-based study in order to determine a useful therapeutic option for breast cancer patients to improve her quality of life. At the same time, it helps the health professionals to develop their skills to meet the needs of the patient and the society. It is expected that the complementary therapy grounded on evidence-based practice studies will be able to enrich the medical practice towards a better integrated health care service.

METHODS

This study was designed by using the qualitative case study method to analyze the situation and needs of breast cancer patients in the West Java Province beginning from the suspect stage or appearance of initial symptoms, the choice of therapy option and final decision to undergo treatment.

The population of this study was the diagnosed breast cancer patients who were undergoing in-patient or out-patient treatment in a hospital. Samples were taken qualitatively employing *non-probability* sampling method, that is, the samples were chosen by using *purposeful* sampling method on 17 patients, to know their point of view and experience in relation to breast cancer.

The process of data collection was done by in-depth interview. Other data collection involved generating data from documentation and archives. As for the in-depth interviews, the stages of the process involved: (1) Thematizing: why and what has been and were investigated; (2) Designing: planning the interviews in research; (3) Interviewing: conducting interviews based on the set guidelines; (4) Transcribing: preparing the interview data for analysis; (5) Analyzing: deciding the objective, the topic of natural process of interviews and appropriate methods of analysis; (6) Verifying: to validate the interview results; (7) Reporting: making a report in accordance with the set criteria of the study.

By analogy with the quantitative data analysis, qualitative approach has four measurement types, namely: (1) Credibility: it referred to the way of describing the phenomenon; (2) Transferability: in reference to the research outcome describing the phenomena, the result used to make generalizations for other situations; (3) Dependability: that researchers had conducted all the research procedures, making data interpretation and reflection of the situation; (4), Conformability: was part of the triangulation being used to reduce bias.

The ethical clearance: this study has received an approval from the Faculty of Medicine, University of Padjadjaran, No. 277/UN6.C1.3.2/KEPK/PN/2015.

RESULTS

Through thematic analysis, there are five main themes obtained regarding cancer patient's perceptions of the disease and the selection of therapy upon getting the symptoms.

The Experience of Illness and Therapy Selection

From the interpretation on the analysis stages of the theme, there are five main topics emerged: (1) The concept of disease based on a subjective category and socio-cultural (illness, sickness); (2) The choice of treatment accepted by the family; (3) The perception of recovery in any type of treatment; (4) The positive meaning of illness: the problem of illness in life incurs a positive meaning; (5) The high expectations of recovery.

A. Illness is (perceived as) a subjective concept and legalized by culture

Almost all patients revealed that they actually have felt the symptoms of cancer since relatively long time, even 8-10 years, prior to the breast cancer diagnosis. Generally they felt or found small lump in the breast area. Only a few of them have guessed to have the possibility of breast cancer. However, generally they all ignored those signs and symptoms and did not consult the physician. It was motivated by some possible reasons, such as: (1) the fear to know the truth of having serious disease; 2) the refusal to add the burden to the patient or the family of knowing the presence of serious diseases being suffered; 3) economic reason: the limitation of financial resources to support treatment, if the serious disease is diagnosed.

Generally, patients assessed that the existing bump was not necessarily be examined because it did not significantly affect their daily activities. It applied both to household activities and external house works for family sustenance. With that in mind, as long as it was not disturbing the activity, the sign and symptom did not refer to diseases. Nearly all patients stated that they did not check the bumps or such symptoms to the physician or hospital.

Moreover, patients' knowledge about cancer was very limited. Generally they just got a little bit of information through television; aside from information they get from other sources considered trustworthy, such as, spouses, relatives, friends or neighbors. However, they almost do not have appropriate information on the cancer details.

In addition, oftentimes, as the symptoms appeared, the patients consulted to certain figures, unprofessional on the matter, like religious leaders (e.g. ustadz), to get information and discuss in the treatment selection.

With the presence of Indonesia health and social insurance (BPJS), generally the patients did not find burdensome anymore concerning financial sustainability for treatment, except those who were diagnosed prior to the existence of BPJS or other insurances (before 2011). Those who were not registered to any health insurance, they spent from their out-of-pocket money, which was not cheap; for example for one surgery it could cost them 25 to 35 million Indonesian rupiahs.

B. Therapy Options received by Social Support

Nearly all patients stated that they did not decide the treatment options alone or independently. Each option chosen was the result of discussion and agreement with the patient's family members or those were close to her. Majority of patients stated that the person most instrumental in the choice of treatment was the husband, followed by close family members, like elder or younger siblings. Children were rarely involved in decision making, even if some of them were already grown up. The *Sundanese* culture character upbringing often suggested that dividing grief or bad news to the other, especially children, would be considered to provide or increase their burden, especially the psychological aspect. However there were few patients who stated that their grown up children also involved in deciding and supporting the treatment option being taken.

Besides, some prominent figures -- such as religious leaders (e.g. ustadz) who were considered to be well-informed about religious practices and knowledge, educated family members, whether professional or non-professional health personnel, who were well-experienced in the day-to-day life -- also played important role in deciding treatment options for the patients.

The situation showed that it was difficult, if not impossible, for the patient to determine treatment options alone without others' opinion and consideration. This was because: 1) the social and cultural character in society was generally collective, so that every important decision should be generated by collective agreement; 2) in the stage of diagnosis and chemotherapy treatment, the patient usually got negative side effects and physically deformed. Family support was very much needed to support and sustain physical activities of the patient. In fact some patients, upon knowing the cancer diagnosis, were not allowed to work by their spouses. They were recommended to take more rest and to do light household works.

Resources information for treatment was generally searched independently by the patient's family, which involved television, mass media, and internet. Few patients asked for information to their physicians, however, not so many were satisfied with the information received. Then, the patients generally asked the chemotherapy nurses for medicines and its dosage and usage.

C. Recovery Perception on Every Therapy Option

Every choice for treatment made by the patient always aimed for recovery. From the statements of patients who went for Complementary and Alternative

Medicine (CAM) treatment options, some of them admitted that CAM treatment could reduce the lump size, though not totally cured. But other patients stated that CAM treatment had not been able to cure the cancer.

Any CAM treatment options were generally based on various reasons: 1) the fear of negative concept against surgery in the modern medicine for cancer treatment and the effect of chemotherapy to reduced physical wellbeing; 2) due to limited financial resources to support modern/conventional medical treatment. Though if calculated on the total amount being spent, both CAM treatment (including transportation) and conventional medical treatments were almost equally expensive. However, in the CAM treatment, they paid little by little in accordance with the financial availability in time of treatment, so that it felt less burdensome.

In determining the option to undergo conventional medical treatment, some disadvantages being considered include: 1) The most fearful choice is breast surgery, due to the sense of feminine image, in that, physically the breast is one of the images characterizing womanhood, and losing it through surgery could mean reducing personal sense of womanhood; 2) on the other hand, undergoing chemotherapy also caused severe negative side effects; aside from nausea and vomiting, it caused hair loss, drastic physical deformation and weight loss, and skin rashes or blackening.

Although few patients were able to “survive” the severity of chemotherapy side effects through good choice of diet and self-discipline, however, most patients experienced drastic physical “drop” after undergoing chemotherapy. Some experiences of the patients undergoing chemotherapy are: *“I felt nausea; could not eat nor drink. I was physically dropped after the first chemotherapy. When the second chemo came, I was not strong anymore, so I needed to be confined for treatment. I needed to take nutritious diet first, before going for chemo.”* Other patient stated: *“for me, chemo was more severe (compare to radiation, surgery _red); there were many complaints during each chemotherapy session: fever, mouth sore, even the pain affected eyes”*. In addition: *“The effects of chemo was heavier than radiation and surgery, until the tongue lost its sensible capacity. And the most unforgettable one was the hair loss until head bolt.”*

Looking at the chemotherapy effect, generally the patients had varied perceptions and experience in relation to it. However, considering the recovery process that they underwent and received after chemotherapy, almost all respondents expressed positive perceptions and attitudes, that they had strong hope for total recovery after fighting for their lives through chemotherapy treatments.

In addition, patients generally began to accept various episodes of the whole life journey with breast cancer after they encountered each other face to face, changing and sharing opinions, experiences, both inside and outside the chemotherapy room. For example, some referral patients to Hasan Sadikin Hospital from outside the city of Bandung (Purwakarta, Cianjur, Pengalengan, Tasikmalaya, etc.) would rent a house, apartment, or boarding house around the hospital. The house or apartment were already inhabited by many cancer patients from far-away places, and the house owner lady even had used to prepare porridge or green beans gruel for the patients. If the chemotherapy session was scheduled

on 9 to 12 noon, some patients would arrive a day before in the dormitory, apartment, or rented houses to prepare administrative needs. Then the following day they could go for the chemotherapy treatment. Some patients preferred to return home outside of the city soon after the session, using hired travels. But others preferred to return the following day. It was in these rest houses that they exchanged experiences, ideas and discussed various things around their illness, accompanied by their relatives or spouses.

D. The Positive Meaning of Illness in Life

Generally, at first, the presence of pain was considered as a tragedy by all patients. In fact even most of them were still in “denial” stage. However others perceived their illness from other perspective, that is, a positive perception. Illness is perceived as having a religious meaning, i.e., it is a means by which Allah/God tries his people. It signifies that illness is not only something bad or sorrowful, but more than that, it has also a positive value contributing to the self-development of the person. This positive value of illness was indicated by some statements or expressions: 1) It might be that a patient has some wrong doings and sins that must be redeemed by their illness; 2) With the pain of illness, they could learn a wisdom of being sincere and patient in accepting destiny and provision God has design for them in their lives; 3) With pain, they were expected to learn and be motivated to work hard for recovery as a form of free self offering and surrender to God. During the time of illness, they were hoped to be closer to God through constant prayers for healing.

Illness and recovery also were perceived differently by patients; however, some expressed that: *“Recovery is a relative issue. It depends on whether there is desire for it or not. If yes, so recovery is possible. As the physician said, ‘try to practice silence; to enjoy the new health condition.’ Why should we always cry to God, and yet, cannot get healed? So, it is better to accept it sincerely, with patience, open heart and mind. Hopefully it can be a medicine for recovery.”* Others said: *“The first chemotherapy caused me little down, but now it is not. Regarding dizziness and nausea, hopefully God will help to strengthen me. Now, it is better to just enjoy it. Being close to God is more important. Look at other patients; they could survive it, God willing.”*

However, some significant impacts frequently felt by the patients as a deficiency due to cancer was that they could no longer perform their daily or household roles normally; even the illness could add burden to other family members.

Other patients who were already accepting their condition of having cancer tried to verify the cause of their illness: *“... perhaps it is because of diet and food intake, because I am a hard worker, and the effect of contraception pills.”* However few patients were still unable to accept their sickness, leading to being unable to verify and assess their health status; saying, *“... some co-workers encouraged to join seminars on cancer. But mother has closed her ears. She was usually encouraged to attend seminars, she thought of it as useless and unwilling listen anymore; she has dropped enough.”*

Another positive aspect was the presence of friends to share. Generally they felt having greater hope for recovery and felt more fortunate upon looking at

their peers whose condition, especially physical condition, were worse than them. Moreover, psychologically, majority of the patients felt that they acquired more strength when there were more people to comfort and offer them positive support. As it was expressed below, *“disease should not be thought seriously; but rather live with it enjoyably. Many are in the same age here. When we go to control together, most often it includes eating out together.”*

An 81 years old cancer survivor, who recovered ten years prior to the interview admitted that to recover, has to be initiated from changing the mindset; there must be a motivation to recover. Then it must be added with spiritual transformation through intense prayers to God day after day. In addition, though with the condition of having cancer, she continued to practice her profession as a teacher, traveling daily 60 kilometers with public bus to reach the school.

E. The High Hope for Recovery

Although the power to heal or recover lies in the hands of God, all patients said that they had great hope for recovery. They always asked for prayers for healing; though their efforts to obtain recovery were varied to each of them. For example, few of them tried hard to have proper diet and with proper amount “against” the drastic lost apatite. On the other hand, due to lost apatite, many patients found it difficult to meet the demand of nutrition adequacy.

Only few patients who knew that the cure of cancer requires a very long time; even within the period of five years they still needed medication. As stated by a patient: *“... there have been many people recovered from cancer. However, to cure it totally seems to be difficult, because they continue to sustain with medicine. Those who have survived for five years also continue to take medicine.”* About the hope for recovery, one of them made a vow to do a religious pilgrimage to Mecca if she could recover. Another patient desired to open a business for family economy sustenance upon recover.

DISCUSSION

According to Otto (2003) there were four primary methods to treat cancer, namely: 1) surgery; 2) radiation, by using energy beam or high ionized particles to treat cancer. This was a local therapy used alone or in combination with other methods, such as surgery, chemotherapy or both. Almost 60% cancer patients use radiation therapy in certain point of their treatment. 3) biotherapy, by modifying the relationship between the tumor and the patient biological response modification of patients against tumor cells with a therapeutic effect as the resultant; 4) chemotherapy, was the use of drugs to reduce the spread of micrometastatic disease and is the treatment of the most widely performed to cancer patients for 6 months.

In addition to the basic advantages of primary therapy, the patients also felt the systemic side effects that affect the physical, psychological, social and spiritual dimension of patient's life. Nausea and vomiting are the most frequent and severe effects felt by patients. According to research, nausea and vomiting symptoms also significantly affect the nutritional status, physical function, anxiety and quality of life of patients. Besides the negative psychological reactions that can occur are changes in mood (more emotional), stress, depression (Ferrel, Dow

and Grant, 2010). Thus, the presence of primary medical therapy side effects calls for comprehensive action in dealing with breast cancer patients.

CONCLUSIONS AND RECOMMENDATIONS

Breast cancer patients should be understood as a whole subjective agent having connection between the body as a physical entity and other aspects of life, such as psychological, social and spiritual. The reconstruction of all components (physical, psychological, social, spiritual) is already part of the illness experience.

Therefore, the behavior of breast cancer patients with regard to health and illness can be understood more accurately by understanding the patient's condition in the totality of his personal human condition and experience. To give effective and appropriate care, health professionals must recognize these different aspects of breast cancer patient's human experience of illness.

REFERENCES

- Cancer Research UK. (2001). *Breast Cancer: Risk and Factors*, available at <http://www.crc.org.uk>
- David, P and Woodham. A (2000). *Natural Helath, Complete Guide to Integrate Medicine: The Best Combination of Alternative Therapies and Medical Science*, Darling Kindersley, New York.
- Departmen Kesehatan Kesehatan Republik Indonesia. (2011). *Indonesia Health Profile 2001*, Departemen Kesehatan, Jakarta.
- Ferrel, B.R, Dow KH dan Grant M. 2010. *Quality of Life Instrument Breast Cancer Patient version*. City Hope National Medical Center and Beckman Research Institute California. Diakses melalui www.ebscohost.com pada tanggal 1 Oktober 2014
- Glanz, K, et al. (2002). *Health Behavior and Health Education: Theory, Resrach and Practice*, Jossey Bass Publisher, San Fransisco.
- Otto, S.E. 2003. *Keperawatan Onkologi*, Jakarta: EGC.
- Purnel (2001). Available at <http://nccam.nih.gov/health/camcancer/>.
- Sierpina, F; Kreitzer, MJ; Sierpina, M. (2009). *Taking Integrative Healthcare Education to The Community through Lifelong Learning*. *Explore*.5:359-361. © 2009 Elsevier Inc.
- Slikkerveer, L.J and Slikkerveer M (1999). *The Cultural Dimension of Development, Indegenous Knowledge Systems*, Exeter, Great Britain.
- WHO (2013). *Breast cancer data*. Available at [http. www. who.intl.org](http://www.who.intl.org)

ASSOCIATED FACTOR AND PREDICTOR OF POST STROKE DEPRESSION AFTER 3 MONTH ONSET: A LITERATURE REVIEW

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ABSTRACT

Background Post Stroke Depression (PSD) was the 20 % of unmet needs among the stroke survivor. The peak of depression range 3- 6 months after onset.

Objective: To investigate the associated factor and predictor of post stroke depression after 3 months onset.

Method: The Database search included EBSCO and Science direct. The search was limited to articles written 2005 and 2015. The subject is stroke survivor 3 months after onset. All articles were assessed for eligibility using the Critical Appraisal Skills Program (CASP) evaluation method.

Result: The articles are 344. The articles were elicited with the criteria inclusions. Fifteen articles related with criteria. Only ten articles eligible in the study. The 3 months of post stroke depression incidence was 27.3%. The prevalence range is 17.7 % - 47.4 %.. Associated factors of PSD were younger age, low perceived social support past history of depression, reduced cognitive speed and poorer verbal memory, Deep White Matter Hyperintensities (DWMH), micro bleeds, Hypertension, unfavorable outcomes at 3 months, left hemisphere lesion, plasma glutamate and Glutamate Oxaloacetate Transaminase (GOT). The predictors of PSD at 3 months after onset are outcome and level of handicap at week 2nd after onset and Melancholy index of Hamilton Depression Rankin Scale (HDRS) after 10 days onset.

Discussion: Associated and predictors of post stroke depression are various. Model of associated factor, risk factor and predictor of post stroke depression after 3 months onset were various in variables also. None of them discuss the coping and stress. Depression is the result of stress. Maladaptive coping caused depression.

Conclusion: Associated and predictor of post stroke depression should be examined to detect post stroke depression. Meanwhile stress and coping as a process of depression, it needed to be investigated among stroke survivor after 3 months onset.

Keywords: Post Stroke Depression, 3 months after onset, Associated, Predictor

BACKGROUND

Post Stroke Depression (PSD) after 2 months onset related with fatigue at 1.5 year after onset (Lerdal et al. 2011). PSD related with recurrent stroke after 1 year (Yuan et al. 2012). Depression in acute stroke enhanced the mortality risk in acute stroke survivor (Jiang, Lin, and Li 2014). Depression in acute stroke caused the suicidal thinking. Depression gained to the poor outcome of stroke survivor

(Pandian et al. 2012). PSD was related with the degree of post stroke handicap and functional independence. Early detection of PSDS and their risk factors might help to predict long term outcome and could promote early interventions of (behavioral) rehabilitation treatment strategies (Snaphaan et al. 2009).

OBJECTIVE

This study was aimed to investigate the associated factor and predictor the PSD after 3 months onset.

METHOD

This literature review was conducted using an integrative approach, a method that draws on a diverse range of studies and methodologies to summarize the main points of past research and to delineate what is known about a topic. A systematic search was conducted using the keyword terms/phrases “associated factor post stroke depression,” or “risk factor post stroke depression”, or “predictor post stroke depression” and “3 months”. The databases searched included EBSCO and science Direct. The search was limited to articles written in English, reviewed and published in the period of 2006–2015. A total of 344 abstracts and articles were obtained during the first search. The articles were elicited with the criteria inclusions. The criteria are written in English, article or abstract, and the subjects are 3 month after onset. Fifteen articles related with criteria. Only ten articles eligible in the study.

Table 1 : Associated factor and Predictor of Post Stroke Depression after 3 month onset

| Title | Sample | Study | Measurements | Result |
|---|---------------------------------|-----------------|--|--|
| A prospective cohort study of lesion location and its relation to post-stroke depression among Chinese patients (W. N. Zhang et al. 2013) | 163 ischemic stroke at 3 months | cohort | The diagnosis of PSD was made with World Health Organization Composite International Diagnostic Interview (WHOCIDI), which is based on Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV). The demographic, clinical, and detailed radiological variables (e.g., lesion location, and degree of white matter lesions) were also examined. | The univariate analyses suggested that the frequency of multiple acute infarcts, the total number and volume of acute infarcts were higher in the PSD group than those in the non-PSD group. In particular, PSD patients showed higher rates of infarcts in cortical-subcortical area of the frontal and temporal lobe as well as in internal capsule (including genu, anterior and posterior limb). The multivariate analysis suggested that independent radiological risk factors for PSD may include the presence of multiple acute infarcts, the infarct affecting either side of posterior limb of internal capsule, genu of internal capsule, and cortical-subcortical areas in the temporal lobe. |
| A prospective cohort study | One hundred | Cross Sectional | assessment the level of handicap | The 3 month cumulative incidence of post-stroke |

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|--|--|-------------------------------------|--|---|
| of the incidence and determinants of post-stroke depression among the mainland Chinese patients (T. Zhang et al. 2010) | and sixty-five patients consecutive ischemic stroke at 3 months | 1 | (mRS), severity of depressive symptoms (HDRS) and cognitive function (MMSE). | depression was 27.3% in this patient population. The univariate analysis suggests that the female gender, past history of depression, marital status and level of handicap at 14 days after stroke were factors associated with the development of post-stroke depression. In the multivariate model, female, past history of depression and level of handicap at 14 days after stroke were further confirmed as demographic and clinical factors that correlate with the development of post-stroke depression. female gender, history of depression and level of handicap at 14 days after stroke are three independent determinants of post-stroke depression occurrence during the first 3 months after ischemic stroke in mainland Chinese patients. |
| A Prospective Study of the Incidence and Correlated Factors of Post-Stroke Depression in China (W. N. Zhang et al. 2013) | 91 two weeks after acute ischemic stroke onset and reevaluated 3 month | Longitudinal | Hamilton Depression Scale (HAMD). Stroke severity was measured by the national Institutes of Health Stroke Scale (NIHSS). Stroke outcome was measured by the modified Rankin Scale (mRS). | The incidence of PSD was 27.47% two weeks after stroke. The occurrence of PSD was unrelated with age, stroke type, stroke lesion and the history of disease. In univariate analysis gender, PSD was correlated with female gender. In multivariate logistic regression analysis, poor stroke outcome (mRS \geq 3) was the important predictors of PSD. |
| Are Vascular Risk Factors Associated With Post-Stroke Depressive Symptoms? (Tennen et al. 2011) | 102 patients with ischemic stroke at 4 month | cross-sectional observational study | National Institutes of Health Stroke Scale (NIHSS). The Center for Epidemiological Studies Depression scale (CES-D) was used to screen for depressive symptoms. Cognition was assessed using the Mini-Mental State Examination (MMSE). | Depression scale to determine depressive symptoms, 37.2%. Hypertension was associated with post-stroke depressive symptoms, while there was no relationship between PSD and other VRFs. Hypertension may have a greater impact than other VRFs on mood following stroke and may have a role in prevention and treatment of PSD |
| Post-stroke depression: can we predict its | 85 patient at first 10 days from the onset | A prospective and observational | Hamilton Depression Rankin Scale (HDRS) | From a total of 85 patients with CI, 59 patients completed the 3-month follow-up and 17 of them (28.8 %) fulfilled PSD criteria |

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|---|--|---|---|--|
| development from the acute stroke phase? (Fuentes et al. 2009) | of stroke and repeated at the 3-month follow-up | ional cohort study | | at the 3-month follow-up. Melancholy index of the HDRS ≥ 1.5 could be a useful clinical tool to detect patients with acute stroke at high risk of developing PSD. |
| Poststroke depression and emotional Incontinence (Choi-Kwon et al. 2012) | 508 consecutive patients with acute ischemic stroke for PSD and PSEI at admission and 3 months later | cohort study | DSM-IV – Diagnostic and Statistical Manual of Mental Disorders, 4th edition; mRS – modified Rankin scale; NIHSS – NIH Stroke Scale; PSD – poststroke depression;. | PSD and PSEI were present in 13.7% and 9.4% of patients, respectively, at admission and in 17.7% and 11.7%, respectively, at 3 months after stroke. Multivariate analyses showed that PSD at admission was associated with the NIH Stroke Scale score at admission, whereas PSD at 3 months was associated with the presence of microbleeds and perceived low social support. In contrast, only lesion location was associated with PSEI at admission, whereas modified Rankin Scale score, STin2 VNTR and low social support were related to PSEI 3 months after stroke.. |
| White Matter Hyperintensity as a Factor Associated with Delayed Mood Disorders in Patients with Acute Ischemic Stroke (Kim et al. 2011) | 133 acute ischemic Stroke 3 months after stroke onset | prospectively registered and retrospectively analyzed study | Hospital Anxiety and Depression Scale (HADS) | Of the 133 patients, 47.4% were 'depressive' and 56.4% were 'anxious' at baseline. The depressive and anxious groups had a significantly higher frequency of severe white matter hyperintensity (WMH) than the nondepressive and nonanxious. The independent factors of PSD and PSA at 3 months were deep white matter hyperintensities (DWMH) and modified Rankin scale 0 to 1 at 3 months. |
| A Prospective Study of the Incidence and Correlated Factors of Post-Stroke Depression in China (W. Zhang et al. 2013) | 102 patient 2 weeks after acute ischemic stroke onset and then reevaluated at three months. | prospective hospital-based study. | Hamilton depression Rating Scale (HAMD) | The incidence of PSD was 27.47% two weeks after stroke. The occurrence of PSD was unrelated with age, stroke type, stroke lesion and the history of disease. In univariate analysis gender, PSD was correlated with female gender. In multivariate logistic regression analysis, poor stroke outcome (mRS ≥ 3) was the important predictors of PSD occurrence during the first 2 weeks after stroke in China. |
| Depression and anxiety 3 months post stroke: | 3 months post stroke in 73 | Cross Sectional Study | The BDI-II was used to measure depression. Beck Anxiety Inventory | Prevalence of moderate to severe depression and anxiety in the sample were high (22.8 and 21.1%, respectively), with co- |

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|---|--|------------------|---|--|
| Prevalence and correlates (Barker-collo 2007) | individual s. | | (BAI). Functional Index Measure (FIM), California Verbal Learning Test-II (CVLT-II), Visual Paired Associates (VPA) | morbidity in 12.3% of cases. In regression analysis, 74.6% of variance in depression was explained, with significant relationships between increased depression and younger age, reduced cognitive speed, poorer verbal memory, left hemisphere lesion, and increased impact of interference (Stroop ratio). |
| Plasma levels of glutamate during stroke is associated with development of post-stroke depression (Cheng et al. 2014) | 209 in Acute ischemic at admission and Stroke 3-month follow-up and 120 healthy volunteers | Comparison Study | DSM-IV (SCID-I-R) (The severity of depressive symptoms was measured with the 17 item Hamilton depression rating scale (HAM-D) | During the study period, 209 patients were included in the analysis. Seventy patients (33.5%) were diagnosed as having major depression at 3 month. Patients with major depression showed higher levels of plasma glutamate and lower GOTat admission. In multivariate analyses, plasma glutamate and GOT were independent predictors of PSD at 3 months Plasma levels of glutamate after adjustment for possible variables. |

RESULT

The 3 month of post-stroke depression incidence was 27.3% (T. Zhang et al. 2010). The prevalence range is 17.7 % - 47.4 %. The distributed of study prevalence are 47.4 (Kim et al. 2011) 37 % (Tennen et al. 2011), 33.5 % (Cheng et al. 2014), 28.8 % (Fuentes et al. 2009) and 17.7 % (Choi-Kwon et al. 2012). Female gender was correlated with PSD (W. N. Zhang et al. 2013) (T. Zhang et al. 2010). Younger age also associated with PSD. Low perceived social support was correlate with PSD (Choi-Kwon et al. 2012). Poor outcome was related with PSD (Barker-collo 2007). The poor outcome or the level of handicap at week 2nd after onset was the important predictors of PSD (W. N. Zhang et al. 2013) (T. Zhang et al. 2010). The poor outcome (mRS \geq 3) with modified ranking Scale protocol (W. N. Zhang et al. 2013). Delayed depression at 3 months also related with unfavorable outcomes (Kim et al. 2011), Past history of depression was related with PSD (T. Zhang et al. 2010). Melancholy index of Hamilton Depression Rankin Scale (HDRS) was associated with a risk three times greater than that of PSD at the 3-month follow-up. Melancholy index of the HDRS \geq 1.5 could be a useful clinical tool to detect patients with acute ischemic stroke. past history was also contributed the depression (Fuentes et al. 2009). Reduced cognitive speed and poorer verbal memory were associated with PSD (Barker-collo 2007)

Hypertension was associated with post-stroke depressive symptoms, while there was no relationship between PSD and other VRFs. Hypertension may have a greater impact than other VRFs on mood following stroke and may have a role in prevention and treatment of PSD (Tennen et al. 2011). delayed depression ischemic stroke were related to the severity of DWMH and unfavorable outcomes

at 3 months (Kim et al. 2011). PSD at 3 months was associated with the presence of microbleeds (Choi-Kwon et al. 2012). deep white matter hyperintensities (DWMH) and unfavorable outcomes at 3 months (Kim et al. 2011). PSD patients showed higher rates of infarcts in cortical–subcortical area of the frontal and temporal lobe as well as in internal capsule (including genu, anterior and posterior limb). independent radiological as risk factors for PSD may include the presence of multiple acute infarcts, the infarct affecting either side of posterior limb of internal capsule, genu of internal capsule, and cortical–subcortical areas in the temporal lobe (W. N. Zhang et al. 2013). Left hemisphere lesion also contributed to the PSD (Barker-collo 2007). Patients with major depression showed higher levels of plasma glutamate and lower GOT at admission. Plasma glutamate and Glutamate oxaloacetate transaminase (GOT), were independent predictors of PSD at 3 months (Cheng et al. 2014).

DISCUSSION

The aim of this study was to investigate the associated factor and predictor of PSD after 3 months onset. The results are various. Associated factors of PSD were younger age, low perceived social support past history of depression, reduced cognitive speed and poorer verbal memory, Deep White Matter Hyperintensities (DWMH), micro bleeds, Hypertension, unfavorable outcomes at 3 months, left hemisphere lesion, plasma glutamate and Glutamate Oxaloacetate Transaminase (GOT). A few study show predictors of PSD at 3 months after onset are outcome and level of handicap at week 2nd after onset and Melancholy index of Hamilton Depression Rankin Scale (HDRS) after 10 days onset.

Reasons for the gender difference in PSD are not clear yet, but may include both genetic factors (e.g. differences in brain functioning and organization) and psychosocial factors. Poor social support is a risk factor of depression (Jiang, Lin, and Li 2014). Family support significantly increased social activities and improved quality of life for carers, with no significant effects on patients (Mant et al. 2000) Post Stroke depression related with level of post stroke handicap and functional independence (Snaphaan et al. 2009). Delayed depression at 3 months also related with unfavorable outcomes (Kim et al. 2011). High self-efficacy, no history of pre-stroke depression, and high levels of perceived social support were the strongest protective factors for depressive symptoms (Lewin, Jöbges, and Werheid 2013). Though the specific mechanism of PSD has not been fully elucidated, literature has traditionally examined the role of specific lesion location, and more recent studies have explored the potential impact of the chronic accumulation of vascular lesions. White matter hyperintensities (WMHs) seen on MRI have been highly associated with hypertension, as well as cardiac disease and smoking. WMHs have also been found more commonly in late-life depression and have been considered to be part of its pathogenesis. The vascular depression hypothesis proposes that cerebrovascular disease predisposes, precipitates, and perpetuates a late-life depression syndrome (Tennen et al. 2011).

The researcher was less competed and compared among the findings. Different tool were used in the research. Model of associated factor, risk factor

and predictor were various in variables. The researcher also may feel reluctant to speak to survivors in what are often miserable and difficult circumstances.

Loss of body functional caused the loss and misery in stroke survivor. General Adaptation Syndrome (GAS) theory, adaptation alteration during stress caused the vulnerability and immune depression (Upton 2010) (Selye, 1956). Maladaptive coping related with poor quality of live in stroke survivor after 5 months onset (Darlington, Dippel, and Ribbers 2007). Depression is the result of stress. Maladaptive coping caused depression (Upton 2010). Meanwhile stress and coping as a process of depression, it needed to be investigated.

CONCLUSION

The associated factor and predictor should be assessed in early acute stage to detect the PSD. Meanwhile stress and coping as a process of depression, it needed to be investigated.

REFERENCES

- Barker-collo, Suzanne L. 2007. "Depression and Anxiety 3 Months Post Stroke : Prevalence and Correlates." 22: 519–31.
- Cheng, Sai-yu et al. 2014. "Plasma Levels of Glutamate during Stroke Is Associated with Development of Post-Stroke Depression." *Psychoneuroendocrinology* 47(183): 126–35. <http://dx.doi.org/10.1016/j.psyneuen.2014.05.006>.
- Choi-Kwon, S. et al. 2012. "Poststroke Depression and Emotional Incontinence: Factors Related to Acute and Subacute Stages." *Neurology* 78(15): 1130–37.
- Darlington, Anne-sophie E, Diederik W J Dippel, and M Ribbers. 2007. "Coping Strategies as Determinants of Quality of Life in Stroke Patients :": 401–7.
- Fuentes, B. et al. 2009. "Post-Stroke Depression: Can We Predict Its Development from the Acute Stroke Phase?" *Acta Neurologica Scandinavica* 120(3): 150–56.
- Jiang, X, Y Lin, and Y Li. 2014. "Correlative Study on Risk Factors of Depression among Acute Stroke Patients." : 1315–23.
- Kim, Joon-Tae et al. 2011. "White Matter Hyperintensity as a Factor Associated with Delayed Mood Disorders in Patients with Acute Ischemic Stroke." *European neurology* 66(6): 343–49. <http://www.ncbi.nlm.nih.gov/pubmed/22095210> (October 23, 2014).
- Lerdal, Anners et al. 2011. "Physical Impairment, Depressive Symptoms and Pre-Stroke Fatigue Are Related to Fatigue in the Acute Phase after Stroke." *Disability and rehabilitation* 33(4): 334–42.
- Lewin, a, M Jöbges, and K Werheid. 2013. "The Influence of Self-Efficacy, Pre-Stroke Depression and Perceived Social Support on Self-Reported Depressive Symptoms during Stroke Rehabilitation." *Neuropsychological rehabilitation* 23(4): 546–62. <http://www.ncbi.nlm.nih.gov/pubmed/23656456>.
- Mant, J, J Carter, D T Wade, and S Winner. 2000. "Family Support for Stroke: A Randomised Controlled Trial." *Lancet* 356(9232): 808–13.
- Pandian, Jeyaraj D. et al. 2012. "Complications in Acute Stroke in India (CAST-I): A Multicenter Study." *Journal of Stroke and Cerebrovascular Diseases*

- 21(8): 695–703.
<http://dx.doi.org/10.1016/j.jstrokecerebrovasdis.2011.03.003>.
- Snaphaan, Liselore, Sieberen Van Der Werf, Karin Kanselaar, and Frank Erik De Leeuw. 2009. "Post-Stroke Depressive Symptoms Are Associated with Post-Stroke Characteristics." *Cerebrovascular Diseases* 28(6): 551–57.
- Tennen, G. et al. 2011. "Are Vascular Risk Factors Associated With Post-Stroke Depressive Symptoms?" *Journal of Geriatric Psychiatry and Neurology* 24(4): 215–21.
- Upton, Dominic. 2010. *Introducing Psychology for Nurses and Healthcare Professionals*. 1st ed. Edinburgh Gate.
- Yuan, Huai Wu et al. 2012. "Poststroke Depression and Risk of Recurrent Stroke at 1 Year in a Chinese Cohort Study." *PLoS ONE* 7(10).
- Zhang, Tong et al. 2010. "A Prospective Cohort Study of the Incidence and Determinants of Post-Stroke Depression among the Mainland Chinese Patients." *Neurological research* 32(4): 347–52.
- Zhang, Wei Na, Yong Hui Pan, Xiao Yu Wang, and Yue Zhao. 2013. "A Prospective Study of the Incidence and Correlated Factors of Post-Stroke Depression in China." *PLoS ONE* 8(11): 1–6.
- Zhang, Wei-na, Yong-hui Pan, Xiao-yu Wang, and Yue Zhao. 2013. "A Prospective Study of the Incidence and Correlated Factors of Post-Stroke Depression in China." 8(11): 1–6.

THE INTEGRATION OF MODERN WOUND CARE AND PATIENT-CENTERED DIABETES EDUCATION (PCDE) IN A PRIVATE NURSING PRACTICE CENTER: ADVANCEMENT OF NURSE'S ROLE IN DIABETES CARE

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ABSTRACT

Background: Diabetic ulcer is the major case met by private practice nurses. A quick survey revealed that diabetic ulcer accounts for 75% to 90% (average: 83%) of wound cases¹. However, most of the private practice nurses do not provide an adequate and well-structured diabetes education as a part of their care. Attention needs to be given since diabetes self-management (including complication prevention) can only be achieved through a structured and continuous education.

Objective: This study aims to elaborate the integration of PCDE and wound care in a wound care center in Malang.

Methods: The method used in this study was a descriptive case study approach as described by Baxter and Jack.

Result: The result showed that the integration of PCDE and wound care resulted in a comprehensive care for patients with diabetic ulcer. In addition to a high quality wound care, patients also receive a well-structured and stepwise education to help them modify their lifestyle in a stress-free and enjoyable fashion. As a result, patients were able to shift their behavior without feeling forced or pushed. PCDE drives patients to transform their behavior on their own pace, as they set the outcomes, decided the timeframe, and designed their own way of behavior modification. Instead of work for patients, nurses work as a facilitator with patients, to guide them and ensure patients are doing on the right track. Patients were able to maintain their blood glucose level better, and their wound healing was satisfyingly accelerated.

Conclusion: The integration of PCDE and wound care was relevant with nurses' responsibility, and is essential to be implemented by private practice wound care nurses.

Keywords: Wound care, Patient-centered diabetes education, Integration, Nurses' role

BACKGROUND

Currently, diabetes prevalence in Indonesia is estimated to be 5,81% or equals to 14,8 to 15 million people (IDF 2014, p. 2). By 2030, diabetes prevalence is estimated to reach 21,3 million people (Kemenkes 2015). The World Health Organization (WHO) predicted that type 2 diabetes, which is mainly caused by unhealthy lifestyle, accounts for 90% of the total diabetes prevalence (WHO 2015). From these statistics it is clear that lifestyle management has a significant role in controlling diabetes prevalence. Unfortunately lifestyle interventions is not yet a priority in Indonesian healthcare system. The fact that Indonesia does not have a diabetes educator profession indicates that lifestyle management is still poorly addressed, since diabetes educators are the one who have the responsibility and ability to help patients improving their lifestyle.

Diabetic ulcer is the major case met by private practice nurses. A quick survey revealed that diabetic ulcer accounts for 75% to 90% (average: 83%) of wound cases (Wibisono and Lestari, 2015). However, most of the private practice nurses do not provide an adequate and well-structured diabetes education as a part of their care. Attention needs to be given since diabetes self-management (including complication prevention) can only be achieved through a structured and continuous education.

OBJECTIVE

To elaborate the integration of PCDE and wound care in a wound care center in Malang

METHODS

Descriptive case study approach as described by Baxter and Jack (2008, p. 5)

RESULTS

The integration of PCDE and wound care resulted in a comprehensive care for patients with diabetic ulcer. In addition to a high quality wound care, patients also receive a well-structured and stepwise education to help them modify their lifestyle in a stress-free and enjoyable fashion. As a result, patients were able to shift their behavior without feeling forced or pushed. PCDE drives patients to transform their behavior on their own pace, as they set the outcomes, decided the timeframe, and designed their own way of behavior modification. Instead of work for patients, nurses work as a facilitator with patients, to guide them and ensure patients are doing on the right track. Patients were able to maintain their blood glucose level better, and their wound healing was satisfyingly accelerated.

DISCUSSION

Recently, wound care technology has grown rapidly. Since the 1980's various types of wound dressings have been invented to deal with the difficulties of chronic wounds. Many studies have proven the effectivity of modern dressings in treating chronic wounds. Various types of dressings are available to deal with different wound conditions. Based on a proper and accurate judgements of the

wound care nurses, modern dressings have been proven to accelerate wound healing and provide better outcomes.

However, nurses should aware that chronic wounds with systemic or metabolic problems such as diabetic wounds requires more than just modern wound dressings to achieve optimal healing. Treating chronic diabetic wounds demands for a comprehensive wound management principles which includes holistic supports such as nutrition management, blood glucose control, psychosocial support, and complication prevention behaviors. By doing so, it is expected that patients will achieve an optimal systemic condition to support the progression of wound healing.

As mentioned on the background section, 75% to 90% of cases met by private practice nurses were diabetic wounds. This fact indicates that most of the patients require a comprehensive care to manage their wound rather than a partial and only wound-focused interventions. Patients need to learn lifestyle modifications to be able to independently manage their blood glucose level and preventing further complications. Since each patient has unique circumstances and characteristics, the lifestyle management interventions should be specifically designed for each person and will be different from one patient to the others. Therefore, in developed countries, the lifestyle interventions is performed as patient centered diabetes education (PCDE) method. This method deals with each patient's unique situation and enables them to become independently design their lifestyle improvement program.

As described by Haas et al (2012, p. 6), PCDE has been proven to be effective in helping patients to modify their lifestyle towards a better glycemic control. The effectiveness of PCDE is strengthened due to its features which includes patient's need assessment, collaborative goal setting, selection of preferable learning methods, the use of cognitive and behavior change principles, motivational communications, and self-efficacy augmentation. Patients are given a central and active role in modifying their lifestyle, whereas the diabetes educators act as a facilitator who guide patients and give directions to make sure patients are doing on the right track. In its process, PCDE gives patients main responsibility in each step of lifestyle modification, these steps include learning need identification, goal setting, time frame, learning methods, implementation methods, and evaluation methods.

The features in PCDE offers patients with flexibility lifestyle modification method, time and evaluation. These flexibilities give patients optimal comfort and release the burden of the disease from their mind as they walk the entire process on their own pace and on their own preferable ways. In contrast, the conventional/traditional diabetes education puts patient in a passive position in which health professional gives a strict orders/commands for patients to follow. This gives psychological burden for patients in modifying their lifestyle as they are forced to do something outside their own preference. With traditional education method patient feels a lot more stress and there is a high possibility of failure or drop out.

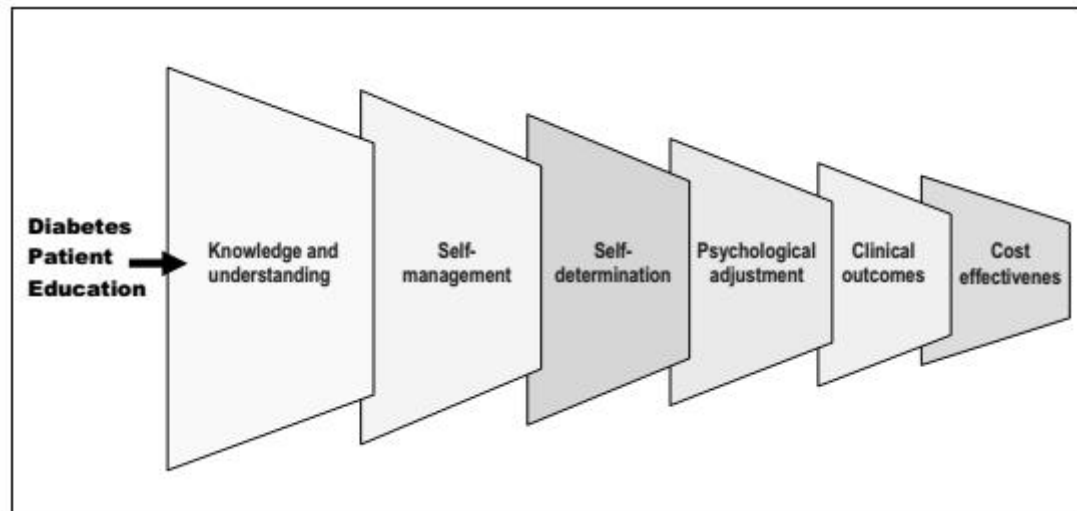


Figure 1. The essential role of education in diabetes management

The figure 1 above illustrates how education can affect many aspect of diabetes management, starting from patients' ability to self-manage diabetes, achievement of clinical outcomes, to the positive impact on reducing healthcare cost.

Therefore, the integration of modern wound care and PCDE is undeniably important as it provides comprehensive support for people with type 2 diabetes who have chronic ulcers.

It enables patients to have the knowledge, ability, as well as the willingness to improve their lifestyle. The understanding about behavior change theory, education theory, and self-management principles gives nurses a new light in caring patients. Lifestyle change is not given, it is earned by patients through their own effort instead of dictated by health professionals.

CONCLUSION

The integration of PCDE and wound care was relevant with nurses' responsibility, and is essential to be implemented by private practice wound care nurses.

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REFERENCE

Diabetes Australia. 2007. Outcomes and Indicators for Diabetes Education A National Consensus position. Canberra: Diabetes Australia

- Haas L, Maryniuk M, Beck J, Cox CE. 2012. National Standards for Diabetes Self-Management Education and Support. *The Diabetes Educator* vol.38, no. 619
- International Diabetes Federation (IDF). 2014. *World Diabetes Map 2014*. Brussels: IDF
- Kementerian Kesehatan Republik Indonesia. 2015. <http://www.depkes.go.id/article/view/414/tahun-2030-prevalensi-diabetes-melitus-di-indonesia-mencapai-213-juta-orang.html>
- World Health Organization. 2015. <http://www.who.int/mediacentre/factsheets/fs312/en/> Diabetes Fact sheet N°312 Updated January 2015.
- Wibisono AH, Lestari, AN. 2015. Independent Survey Among Private Practice Nurses. Indonesian Wound Care Clinician Association (InWCCA).

THE EFFECT OF CONTAMINATED WOUND CARE WITH WATER EXTRACT OF CENTELLA ASIATICA L. LEAF IN ACCELERATING THE REDUCTION OF ERYTHEMA IN RATTUS NORVEGICUS

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ABSTRACT

Background: Contaminated wound experiences inflammation that occurs as a natural response to tissue damage. The efficacy of *Centella asiatica* for contaminated wound is not fully understood.

Objective: To know the effect of contaminated wound care with water extract of *Centella asiatica* leaf in accelerating the reduction of erythema in rats.

Methods: This was a pure experimental research, that used post test only control group design with simple random sampling. The samples were 36 white rats that were divided into 2 groups, every group consisted of 18 rats. Erythema was assessed using the program Corel Photo-Paint.

Results: The decline intensity of erythema in the treated group occurred within 5 days 16 hours 48 minutes, while the control group occurred within 7 day 19 hours 12 minutes. The data were analyzed using the Independent Sample T Test, and the result of $p\text{-value} = 0.001$ ($p\text{-value} < 0.05$). It meant that the average of erythema reduction in the group that was given water extract of *Centella asiatica* leaf was faster than the control group.

Discussion: The water extract of *Centella asiatica* leaf was assumed to contain a variety of compounds, such as flavonoids, madecassoside acid, and asiatic acid, which were useful as anti-inflammatory. Flavonoid can inhibited cyclooxygenase phase (COX). Madecassoside acid and asiatic acid can inhibited the flow of arachidonic acid and the function of the main mediator so that inhibiting prostaglandin formation.

Conclusion: The water extract of *Centella asiatica* leaf can accelerate the reduction of erythema in *Rattus Norvegicus* with contaminated wound.

Keywords: erythema, contaminated wound, water extract of *Centella asiatica* L. leaf.

BACKGROUND

Contaminated wound is a type of wound that is left exposed so susceptible to infection, which is about 10% - 17%. Contaminated wound consists of open wound, injuries from accidents, surgery with major damage, acute incision, and inflammatory non purulen. Contaminated wound usually will be inflammation that is characterized by redness (erythema), heat (calor), pain (dolor), swelling (tumor), and loss of function (fungsiolosa) (Mansjoer, 2000). Erythema is the first

sign appeared at the time of occurrence of inflammation. Erythema is easier to measure and more objective judgment. When signs of erythema decrease, the healing process will be faster.

During this time, people are used to using povidone iodine in treating wound. Povidone iodine is irritants, allergens, and leaves the residue (Gayatri, 2005). The use of povidone iodine with a concentration > 3% can give a burning sensation on the skin (Kalpokas, 2010). Burning will appear with povidone iodine when treated area be covered with a bandage so that injured skin can become stained, irritation, and pain (Yavascan, 2011). Therefore, the community utilizes the surrounding plant to make alternative medicine to overcome this problem, because it are cheap and easy obtainable. One of the plants that can be utilized is gotu kola (*Centella asiatica* (Linn.))

Centella asiatica (Linn.) is a tropical plant that contains saponins, triterpan, tannins alleged anti-inflammatory (Winarto, 2007). Saponins (asiaticoside, asiatic acid, and madecassoside) are functioning stimulate the production of collagen I (Zainol, 2008). In the previous study conducted by Chippada and Somchit has proved that the water extract of *C. asiatica* leaf can serve as anti-inflammatory (Somchit, 2004; Chippada, 2011; Chippada, 2011). Other studies noted that *C. asiatica* leaf extract can heal 64% wound and produce improvement on the 16% wound. This is presumably because *C. asiatica* has content of antibacterial, anti-inflammatory, and antioxidant (Anilkumar, 2010). However, some of the studies have not explained the role of water extract of *C. asiatica* leaf as an anti-inflammatory with erythema reduction mechanism in contaminated wound.

OBJECTIVE

This study will reveal the effect of contaminated wound care with water extract of *C. asiatica* leaf in accelerating the reduction of erythema in white rats (*Rattus norvegicus*).

METHODS

This study was an experimental study using post test only control group design with simple random sampling technique that was conducted at the Laboratory of Chemistry, Faculty of Medicine, University of Lambung Mangkurat in June to July 2012. This study used 36 white rats that were divided into 2 groups, every group consisted of 18 rats. Control groups (P_0) were a group of rats with contaminated wound without treated. Treatment Group (P_1) were a group of rats with contaminated wound that was given 10 mg/kg BW water extract of *C. asiatica* leaf.

The materials used in this study were 10 mg / kg BW *Centella asiatica* L. leaf, aquadest, alcohol 70%, ether, and NaCl 0.9%. *C. asiatica* were collected from their natural habitats in Gambut, South Kalimantan, Indonesia. Animals used in this study were male white rats (*Rattus Norvegicus*) in good health, as many as 36 while rats with 2.5-3 months old and 200-250 grams weight. The tools were used consisted of extraction tools, scales rats, mice cages, sterile scalpel, shaving machine, gloves, swab, cotton, sterile gauze, scissors gauze, gauze clean, and digital camera. The water extract of *C. asiatica* was done by maceration techniques.

Before was done the injury in rats, researcher washed hands and pairs of gloves. Then pad and bases under were put in the body of a rats. In the rats that have been adapted will be done general anesthesia in inhalation with inserting a rat into jars which already contained the ether. After that, the fur was shaved on the back of a 3-5 cm long. Then it was done inhalation anesthetic using ether back and disinfection in rats skin area to be performed incision with 70% alcohol. The incision was made using a sterile scalpel, about 2.5 cm long wound with a depth up to the subcutaneous area. The resulting wound was done contamination by using sand and left exposed to the air for over 8 hours. After that, the wound was cleaned by using 0.9% NaCl and was covered using sterile gauze. Then it was bandaged. Wound care was done once a day each morning. The P₀ group, wound was cleaned and replaced the bandages. While the P₁ group, wound was cleaned and then smeared with using water extract of *C. asiatica* leaf as much as 10 mg/kg BW topically. Then wound was bandaged the bandages.

Wound care was evaluated until visible signs of reduction erythema within a maximum period of eight day by monitoring the wound. The recording of data was done by looking at the change on erythema from day to day. Data collection techniques was done by photographing objects wound with a digital camera and then the images were processed. To determine the color intensity of erythema in the area near wound and normal skin in each group used program Photopaint Graphic Suite 12 to obtained data such as the mean of the intensity of the redness. Data obtained that was tested normality using test Shapiro-wilk and was analyzed with using test Independent sample T test with 95% confidence level, significant if $p < 0,005$.

RESULTS

Water extract of *C. asiatica* leaf contained active ingredient that can reduced the erythema on *Rattus norvegicus* who suffer contaminated wound. This can be seen in figure 1.

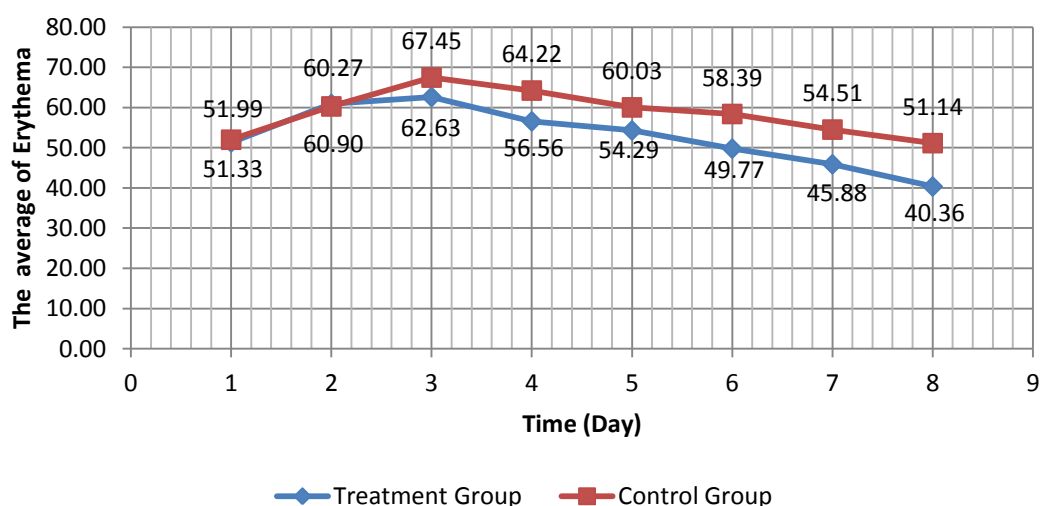


Figure 1. The comparison of intensity reduction of erythema in *Rattus Norvegicus* between control group and treatment group

In figure 1 showed that there was a reduction of erythema in both groups of rat with contaminated wound. However, groups of rat that suffered contaminated wound and taken care using the moist bandage technique with water extract of *C. asiatica* leaf result the reduction of erythema earlier than the control groups. The average value of the first day of a redness color in the control group was 51,99. Then experienced the peak of erythema on the third day with an average value of redness color was 67,45. Then, reduction reached level of redness like the first day within 7 day 19 hours 12 minutes. Meanwhile, the reduction of average value of redness color reach level redness like the first day of treatment group was 51,33 and reach the peak of erythema in the third day with the average of redness was 62,63. The reduction of average value of redness color reached level redness like the first day occurs within 5 day 16 hours 48 minutes.

In general, the average of erythema in rats with contaminated wound can see in figure 2.

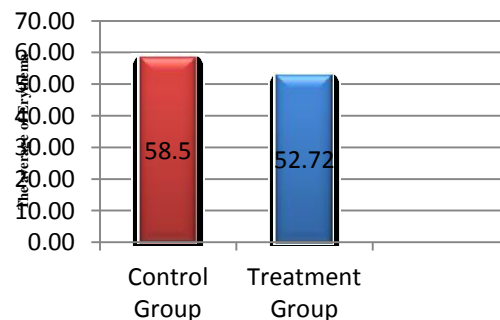


Figure 2. The average intensity of erythema with using water extract of *C. asiatica* leaf and not given treatment.

The figure 2 showed the average of erythema in treatment group lower than control group. The data result of both groups were analyzed normality with Shapiro wilk's Test so it was found that data were normality distributed (p -value $> 0,05$). Data were analyzed further by T independent test that were obtained significance value of 0,001 (p -value $< 0,05$). This shows there were significant differences between both of group which can be interpreted that the average reduction of erythema in group given water extract of *C. asiatica* leaf more rapidly reduction than control group.

DISCUSSION

Physiological process of wound healing was divided into three main phases of inflammation, proliferation, and maturation. In the early phase of inflammation will be occur hemostasis and then occur soft tissue response. Hemostasis was temporary vasoconstriction of damaged blood vessels occurs when a blockage was formed and also strengthened by fibrin fibers to form a clot. The response of soft tissue was damaged tissue and mast cell release histamine and other mediators, thus causing vasodilation of blood vessels surrounding still intact and

increasing blood flow to the area. It resulted in the sense of warmth and redness (erythema) (Morison, 2003).

The inflammation reduction of erythema in control group was not fast because wound healing process occurs naturally. The inflammatory phase occurred naturally because absence of anti-inflammatory component agent which can inhibit the action of inflammatory mediators (Juniarto, 2006). The treatment group using water extract of *C. asiatica* leaf was faster experienced a reduction. This was because the water extract of *C. asiatica* leaf was assumed to contain a variety of compounds, such as flavonoids, madecassoside acid, and asiatic acid, which were useful as anti-inflammatory. (Somchit, 2004; Chippada, 2011).

Flavonoids were polyphenolic compounds that have an effect as a anti-allergenic, anti-inflammatory, antiviral, and antioxidant (Musa, 2010; Fitriyani, 2011). The level of flavonoids in water extract of *C. asiatica* leaf was 0,361 g/100g (Pittella, 2009). Flavonoids worked by inhibiting an enzyme that play a role in the formation of superoxide anions involved in the production of free radicals. Therefore, flavonoids were able to work inhibition an important phase in the biosynthesis of prostaglandins, which were on trajectory cyclooxygenase (COX) (Fitriyani, 2011). There were two isoenzymes in COX, namely COX-1 and COX-2. Zha et al (2001) suggest that COX-2 is an enzyme that can converted arachidonic acid into prostaglandin proinflammatory as the main target of anti-inflammatory drugs (Zha, 2001).

The antioxidant activity of water extract of *C. asiatica* leaf has evaluated its ability to scavenge free radicals DPPH. It showed high antioxidant activity with IC50 values of 31,25 mg/ml. Ascorbic acid and butylated hydroxytoluene (BHT) generate IC50 value of 2.50 mg/ml and 7.58 mg/ml. Based on previous data that the possibility of strong antioxidant activity of the extracts polar are selected for substances the free hydroxyls (Pittella, 2009).

This was reinforced by statements Kelada (2000) that the consumption of antioxidant can inhibited disease severity. Otherwise, decreasing the amount of antioxidants in the body caused inflammatory and initiated the release of oxidative (Kelada, 2000). Arini (2003) mentions that the higher levels of flavonoids, then greater the antioxidant potential. The antioxidant potential, that were better and large, can take action to arrest free radicals so as to prevent further tissue destruction (Arini, 2003). This again is supported by Nijveldt (2001) that flavonoids can prevented free radical activity which slows inflammatory process through various mechanisms with stabilize the components of free radicals. The high reactivity of hydroxyl component of flavonoid resulting free radicals become inactive so that the activation of inflammatory mediators by radicals can be inhibited (Nijveldt, 2001). In addition, flavonoids have a role directly as antibiotics disrupt the function of microorganisms such as bacteria or viruses, so that the wound was not infectious (Prameswari, 2010).

Madecassoside acid and asiatic acid were one of triterpenoids compounds that have savour as anti-inflammatory (Somchit, 2004; Chippada, 2011). Mechanism of action of the two compounds as anti-inflammatory was through inhibition of arachidonic acid flow and function of the main mediators resulting in barriers the formation of prostaglandins (Prameswari, 2010). On contaminated wound will be a process of inflammation that will stimulate the activation of

cytokines such as IL-1 beta, IL-6, interferon alpha, and TNF alpha. This cytokine will stimulate the preoptic hypothalamus to increase PGE1 and PGE2 that can stimulate increased heat production (Utami, 2009). The water extract of *C. asiatica* leaf at certain concentrations be able lowering heat and inflammatory reactions through the mechanism of inhibition of prostaglandin formation. This result research were consistent with the result of research conducted by Somchit MN who found madecassoside acid activity and asiatica acid in water extract of *C. asiatica* leaf with contents 4 mg/kg has anti-inflammatory activity comparable to 10 mg/kg of mefenamic acid (Somchit, 2004).

CONCLUSION

The present study demonstrates the contaminated wound care with water extract of *C. asiatica* leaf can accelerate the reduction of erythema in white rat (*Rattus Norvegicus*). This research needs to be further developed both on the effect of *C. asiatica* leaf against other inflammatory signs also about wound care using extract of *C. asiatica* leaf in wound healing process. The expectation of this study was also developed and carried out in the scope of nursing clinic to determine the effect of using water extract of *C. asiatica* leaf in wound care on wound of humans.

REFERENCES

- Anilkumar, M. (2010). Ethnomedicinal plants as antiinflammatory and analgesic agents. *Ethnomedicine: A Source of Complementary Therapeutics*, 267-293.
- Arini, S., Nurmawan, D., Alfani, F., et al. (2003). Daya antioksidan dan kadar flavonoid hasil ekstraksi etanol-air daging buah mahkota dewa (*Phaleria macrocarpa* (Scheff.) Boerl.). *Buletin Penalaran Mahasiswa UGM*, 10(1), 2-6.
- Chippada, S.M., & Vangalapati, M. (2011). Antioxidant an anti-inflammatory and anti-arthritis activity of *Centella asiatica* extracts. *Journal of Chemical, Biological and Physical Sciences*, 1(2), 260-269.
- Chippada, S.M., Volluri, S.S., Bammidi, S.R., et al. (2011). In vitro anti inflammatory activity of methanolic extract of *Centella asiatica* by HRBC membrane stabilisation. *Rayasan J. Chem.*, 4 (2), 457-460.
- Fitriyani, A., Winarti, L., Muslichah S., et al. (2011). Uji antiinflamasi ekstrak metanol daun sirih merah (*Piper crocatum ruiz & pav*) pada tikus putih. *Majalah Obat Tradisional*, 16(1), 34-42.
- Gayatri, D. (2005). Perkembangan perawatan luka : dulu dan kini. *Jurnal Keperawatan Indonesia*, 2, 23-24.
- Juniarto, V., Prasetyo, B.M. (2006). Aktivitas sediaan gel dari ekstrak lidah buaya (*Aloe barbadensis mill*) pada persembuhan luka mencit (*Mus Musculus albinus*). *J. II Pert Indon*, 11(1), 18-23.
- Kalpokus, I., Perdigon, F., Rivero, R., et al. (2010). Effect of a povidone-iodine intrauterine infusion on progesterone levels and endometrial steroid receptor expression in mares. *Acta Veterinaria Scandinavica*, 21(3), 166-170.

- Kelada, S.N., Kardia, S.L.R., Walker, A.H., et al. (2000). The Glutathione S-Transferase-A μ and genotypes in the etiology of prostate cancer: genotype-environment interactions with smoking. *CEBP*, 9, 1329-34.
- Mansjoer, A., dkk. (2000). *Kapita Selektta Kedokteran. Edisi III*. Jakarta : Media Aesculapius FKUI.
- Morison, M.J., (2003). *Manajemen Luka*. Jakarta : EGC.
- Musa, R., Suat, H.T., Arbakariya, A., et al. (2010). Effect of plant growth regulators on callus, cell suspension and cell line selection for flavonoid production from pegaga (*Centella asiatica* (L.) Urban). *American Journal of Biochemistry and Biotechnology*, 6(4), 284-299.
- Nijveldt, R., van Nood, E., van Hoorn, D.E.C., et al. (2001). Flavonoids: a review of probable mechanisms of action and potential application. *Am J Clin Nutr*, 74, 418-25.
- Pittella, F., Dutra, R.C., Junior, D.D., et al. (2009). Antioxidant and cytotoxic activities of *Centella asiatica* (L)Urb. *Int. J. Mol. Sci.*, 10, 3713-3721.
- Prameswari, D.P., Handajani, J. (2010). Efek berkumur ekstrak pegagan (*Centella asiatica* (L.) Urban) konsentrasi 40% dan 50% terhadap aktivitas spesifik glutathione s-transferase pada saliva penderita gingivitis sedang. *Majalah Obat Tradisional*, 15(3), 138-145.
- Somchit, M.N., Sulaiman, M.R., Zuraini, A., et al. (2004). Antinociceptive and antiinflammatory effects of *Centella asiatica*. *Indian Journal of Pharmacology*, 36(6), 377-380.
- Winarto, W.P. (2007). *Tanaman Obat Indonesia untuk Pengobat Herbal Jilid 2*. Jakarta: Karyasari Herba Media.
- Yavascan, O., Anil, M., Kara, O.D., et al.(2011). The comparison of exit-site care with normal saline and povidone-iodine in preventing exit-site infection and peritonitis in children on chronic peritoneal dialysis treatment. *Saudi J Kidney Dis Transpl*, 22(5), 931-934.
- Utami, Y.W., Murniati, A., Sumarno. 2009. Efek perawatan luka terkontaminasi dengan ekstrak bawang putih lanang dalam mempercepat penurunan eritema. *Jurnal Kedokteran Yarsi*, 17(1), 021-030.
- Zainol, N.A., Voo, S.C., Sarmidi, M.R., et al. (2008). Profiling of *Centella asiatica* (L.) urban extract. *The Malaysian Journal of Analytical Sciences*, 12(2), 322-327.
- Zha, S., Gage, W.R., Sauvageot, J., et al. (2001). Cyclooxygenase-2 is up-regulated in proliferative inflammatory atrophy of the prostate, but not in prostate carcinoma. *Cancer Res.*, 61, 8617-23.

EXPERIENCES OF RECEIVING INFUSION THERAPY DURING HOSPITALIZATION

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ABSTRACT

Background: Most of hospitalized patients need intravenous therapy or infusion. Patients being infused have various perceptions and experiences related to their infusions. Infusion or intravenous therapy as one of invasive treatments may also cause problems for the patients.

Objective: Objective of this study was to explore experiences being infused during hospitalization.

Methods: This study was phenomenological study which employed 15 patients hospitalized in medical ward of Arifin Achmad general hospital in Pekanbaru, Indonesia and recruited using purposive sampling. Data were collected using in-depth interview and field note, and analyzed using Colaizzi's method. Trustworthiness was maintained throughout this study by achieving credibility, transferability, confirmability, and dependability of the study.

Results: The results showed that 4 themes emerged from the data: perception regarding patients and infusion, goals of being infused, problems in using infusion, and ways to deal with infusion.

Discussion: Nurses play important roles in providing care for patients with infusion therapy.

Conclusion: Nurses need to explain infusion therapy given to patients completely and correctly as well as provide appropriate treatment to minimize problems regarding use of infusion in order to enhance quality of nursing care for patients with infusion therapy.

Keywords: Experiences, Infusion, Patients, Hospitalized, Phenomenology

BACKGROUND

Intravenous therapy or commonly called infusion is inserting fluid into the veins that are often performed on patients in various health care centers such as hospitals. Infusion is used for various purposes, such as to help the fluid intake for patients who are dehydrated, unconscious, or unable to swallow. Infusion also serves as a means of inserting nutrient or electrolyte to improve the body's acid-base balance, as a means of blood transfusions, and one way to incorporate the drug into the body (Alexander, et al, 2010). Use of infusion or intravenous therapy in various health care centers, especially hospitals are very much. In the UK, 25 million patients per year using infusion during their hospitalization (Campbell, 1996 in Hampton, 2008). The use of infusion currently is starting to spread, not only in hospitals but have been started for the care of patients at home (home

care). Gabriel (2008) states that the use of infusion has become a common thing in which 90% of inpatients in the hospital received intravenous during treatment.

Basically infusion is based on prescription from doctors but nurses are responsible for inserting and maintaining the infusion. As an invasive procedure, the nurse must be skilled to inserting infusion. Abilities and skills of nurses can reduce the discomfort perceived by patients due to infusion such as pain during needle insertion infusion and complications of infusion.

Nurses must have ability to provide intravenous therapy safely, effectively, and must provide high quality care for patients with infusion. According to Scales (2009), the role of the nurse related not only put an IV infusion, but also delivering medication through intravenous, monitoring, treatment, and prevention of infection. Security aspects of the patient (patient safety) should also be considered by nurses in providing intravenous therapy, such as infusion mounting location and inserting in accordance with the standard operating procedures to prevent problems during treatment, such as infection at the infusion area, swelling, or inserting repeated which may cause traumatic for the patient.

The existing study showed research related to infusion or intravenous therapy more and focus on problems or complications that arise due to infusion such as phlebitis, tromboflebitis and others (Asrin, Tryanto & Upoyo, 2006; Maria & Kurnia, 2012; Wayunah, 2011; Pasaribu, 2006). The researcher did not find a qualitative research which explore experiences in using the infusion in patients who are hospitalized. This study was important in providing an understanding for caregivers about the views of the patient and how patients feel intravenous cannula attached to his body, so that nurses can provide more quality nursing care particularly associated with the use of infusion for the patient.

OBJECTIVE

The objective of this study was to explore experiences of receiving infusion therapy during hospitalization of adult patients in Arifin Achmad Hospital.

METHODS

This study was a qualitative study using descriptive phenomenological approach. According to Edward (2006), phenomenology is a philosophical framework and methodology that can increase knowledge about health-illness continuum and has implications for the understanding of the uniqueness of the patient as well as useful for improving clinical outcomes for patients and their families. According to Dowling (2004), descriptive phenomenology emphasis on descriptions of observed phenomena and aims to acquire fundamental knowledge of the explored phenomena.

Participants in this study were adult patients who receiving infusion and hospitalized in Arifin Achmad Hospital and were recruited by purposive sampling with inclusion criteria: have been receiving infusion of at least 3 days respectively, both hands can move freely without barriers/weaknesses, do not have physical mobility impairment such as weakness, paralysis or disability, and did not receive instructions to total bedrest.

The researcher conducted in-depth interviews to fifteen participants in their wards using open questions and using field notes. Data were analyzed using

Colaizzi's method (1978, in Straubert and Carpenter (1999), namely: 1) create a description of the observed phenomena, 2) gather participants description of the observed phenomena, in this case to make a transcript of the interview and complemented with field notes, 3) reading of the transcript of participants repeatedly in order to understand the phenomenon, 4) identify keywords by filtering significant participant statements and relevant to the phenomenon under study and then grouped, 5) determine the meaning of each important statement from each participant, 6) organize meanings that have been identified to be the themes, 7) integrating research results in a narrative description which appropriate with research purposes, 8) back to participants for validation of research results that have been made, 9) if there is new data during validation, enter the new data into description of the results .

Trustworthiness in this study achieved by applying the principles of credibility, confirmability, transferability and dependability (Lincoln & Guba, 1985). Credibility refers to the truth of the results that can be trusted to reveal the real phenomenon. Credibility is achieved by applying checking members who are also included in the method Colaizzi, foster good relations and mutual trust with the participants, and collecting data with in-depth interviews and field notes.

Confirmability achieved by documenting the results of interviews and field notes well, making the transcript of the interview, create and describe research procedures with bright and clear so as to demonstrate and prove that the results derived from the processes and procedures that have been performed. Transferability in this study achieved by making research report, the process and the results of the research clearly, include quotes of the participants to deepen the understanding of the meaning that is displayed in the results. Dependability in the study achieved through an audit by the two members of the research team of data, processes or research procedures, and interpretation of research results to reach a common understanding of the results obtained.

RESULTS AND DISCUSSION

Fifteen participants recruited in the study. They consisted of five male patients and ten female patients, aged between 18 to 73 years. Majority of occupation of the participants were housewives, the rest were farmers, lecturer, students, and entrepreneurs. Length of receiving infusion of participants varied from 3 to 18 days. The participants' education consisted of elementary school as much as 6 people, junior high school 3 persons, senior high school/vocational school 4 persons, bachelor 1 person and master 1 person. Participants' illnesses were also varied. Characteristics of participants in more detail can be seen in the following table.

Table 1.
Characteristics of the participants (n=15)

| Participants | Age | Gender | Education | Occupation | Medical diagnoses | Length of receiving infusion (days) |
|--------------|-----|--------|--------------------|------------|--------------------|-------------------------------------|
| 1 | 33 | F | Senior High School | Housewife | Nephrotic Syndrome | 4 |

| Participants | Age | Gender | Education | Occupation | Medical diagnoses | Length of receiving infusion (days) |
|--------------|-----|--------|--------------------|--------------|-------------------------|-------------------------------------|
| 2 | 48 | F | Junior high School | Housewife | Leukemia | 12 |
| 3 | 22 | M | Junior High School | Farmer | Poisoned | 7 |
| 4 | 47 | M | Master | Lecturer | Hepato megal | 5 |
| 5 | 26 | F | Elementar y School | Housewife | DM | 3 |
| 6 | 73 | F | Elementar y School | Housewife | Chronic Leukemia | 4 |
| 7 | 54 | F | Elementar y School | Housewife | DM+ renal complicati on | 7 |
| 8 | 52 | F | Junior high School | Entrepreneur | Stroke | 5 |
| 9 | 23 | F | Bachelor | Analyst | Anemia aplastic | 8 |
| 10 | 40 | F | Elementar y School | Housewife | HIV/AIDS | 4 |
| 11 | 35 | F | Elementar y School | Housewife | Dyspepsia | 3 |
| 12 | 35 | M | Elementar y school | Farmer | Anemia | 16 |
| 13 | 18 | M | Vocational school | Students | Acute Leukemia | 4 |
| 14 | 26 | F | Senior high school | Housewife | Suspect IML | 7 |
| 15 | 38 | M | Senior high school | Entrepreneur | Hepatitis + anemia | 18 |

Four themes emerged from the data. The themes were perception regarding patient and infusion, goals of being infused, problems in using infusion, and ways to deal with infusion. Explanation of each theme as follows:

1. Perception regarding patients and infusion

Participants in this study had different perceptions about the infusion. As the sick person were treated in hospital, the patients had different perceptions of infusion as part of the intervention they received. Seven participants perceived patients should be infused. They assumed the sick who are hospitalized should be infused, as expressed by one participant:

"If the body is not healthy, yes, must be infused. People who cared in this hospital are unhealthy, so they should be infused "(P8)

Meanwhile three other participants viewed not all patients should be infused. They argued to be infused or not depending on the disease. One participant said:

"...not all, not all patients being infused, depending on the disease. For example, person next to me is not being infused"(P13).

Other participants argued infusion were only for patients with certain physical conditions such as weakness, as stated by a participant:

"If the body is weak infusion should be given, if not weak, no need to receive infusion" (P5).

Most patients with various conditions and diseases require an infusion for their treatments. In nursing, infusion is now an integral part of a professional service (Wayne, et al, 2013). Infusion is given as a means of entering nutrients or electrolytes, improve the acid-base balance disorder of the body, blood transfusion media, and also one way of inserting the drug into the patient's body (Alexander, et al, 2010). Types of IV fluids administered to the patient depend on the purpose of the infusion.

Patients who are hospitalized can have diverse viewpoints regarding intervention or action taken by nurse or doctor who treated them. View of the patient to the need or importance of infusion strongly influenced by the patient's knowledge and understanding of the purpose and benefits of the infusion. In this case the nurse as the person who is responsible for the infusion need to give understanding of the purpose, benefits, and procedures of installation and treatments of infusion so that patients have the right perception of the infusion. The provision of accurate and adequate information to the patient or care-related actions to be performed on patients is part of the professional conduct of a nurse. Widyarini (2005) stated that in a state of sickness, patients require care professional action of the nurses and doctors who have competence in order to heal patients. Experiences of patients experiencing treatment are influenced by the professional capabilities of nurses, so that more professional and competent nurses provide nursing care, the better service experienced by the patient.

2. Goals of being infused

Participants in this study looked at the purpose infusion installed on their hands in various ways. Seven participants said that their goal is infused in order to recover them quickly. One of them said:

"..in order to recover me quickly. That is purpose of being infused"(P2)

Six other participants said that the goal of infused is to increase the physical strength. Two of the participants said:

"Yes, infusion is given to increase physical strength. I have illness so I need to increase power of my body" (P7)

"...to be strong, for my endurance. That's why I am being infused" (P9)

Participants also looked purpose of infusion as a meal replacement or nutritional enhancer. Two participants said:

"Hmmm..what is... it as a meal replacement. Yes, being infused for meal replacement. That's what I know" (P14)

" The purpose of infusion? off course so to increase nutrition. That's what I felt from the infusion" (P8)

Intravenous fluids consist of various compositions. Some infusion fluids contain antibiotics, electrolytes, or nutrition. Patient's infusion is given in accordance with the purpose of administration, such as intravenous fluid that contains antibiotics given to treat infections, infusions which contains nutrients and electrolytes to help meet the nutritional and electrolyte, as well as meet the

needs of the patient fluid. In this study, nearly all participants get an infusion that contains fluid and electrolytes. In general, the ultimate goal of hospitalization is to achieve a cure. View towards the goal of infusion also influenced by patients' experiences of feeling the effects of the infusion before and the information received about the infusion. According to Gromiko (2009), patients had behavior to seek information about treatment they received through communication with nurses and through other people or mass media. The more accurate the information obtained, more they understand about their treatments.

3. Problems in using infusion

Problems arising from the use of infusions are challenge in health care for patients who receive infusion. Nearly all patients have problems with infusion. In this study, most problems reported by participants were pain. Eleven participants said infusion causes pain. Pain occurs because the infusion is invasive procedure in which a small cannula inserted into a blood vessel and maintained for days to drain the fluid. This is certainly cause pain or tenderness. Pain can also be caused due to the stalled infusion flow and cause blockages. Expression of pain is expressed by various terms by the participants. Some call it *ngilu*, pain such as insect bites, or sore. One participant said:

"... pain ...yes, pain....it looks like being bited by insects" (P3)

Another participant said:

"At first time it felt like ngilu(pain) ...Ngilu-ngilu (pain). That what I feel being infused "(P14)

Another problem experienced by participants related to the IV infusion was jammed infusion. Almost all jammed infusion problem experienced by participants occurred because the movement of their hands causing the infusion fluid flow was not smooth then become jammed or stalled, or because their movements like getting out of bed to go to bathroom. This problem experienced or perceived by seven participants. Jammed infusion can also cause pain. One participant said:

"...infusion fluid could not drain. Pain when the insertion area was touched... then infusion was moved here here, but also could not drain. The moved again to another place, here ... now the fluid drains" (P6)

In addition, other problems are also felt by the participants is swelling or edema. Swelling due to blockage in the intravenous cannula are so that the flow of an intravenous infusion cannula stuck and eventually intravenous fluids accumulate in the area and become swollen. Five participants have felt swelling in the area of the infusion on his hand. As well as jammed, swelling also causes pain. One of them said:

"Ooo, I experiencing five times swelling..alwasy swelling.. pain, so painful" (P15)

In addition to the above issues related physical complaints as a result of infusion, participants in the study also complained of barriers that arise due to infusion. Participants perceived physical barriers such did not free to move, be disturbed to the bathroom, and was not able to be independent. Almost all the participants recognized the difficulties for mobility because of the IV. One of them said:

"... Disturbed..yes, it (infusion) disturbs me, especially if I want to bathe.. go to bathroom become so hard ... It disturbs me if I go to the bathroom" (P4)

Another participant said:

"... This infusion makes me not free to move. It limited me..I difficult to move freely" (P3)

According Widyarini (2005), pain is a subjective unpleasant experience and contains protective function. In this study, patients feel pain or pain caused by infusion, jammed infusion or swelling. The ability of nurses to install and care for infusion greatly affects much or little problems or complications caused by the infusion. According Jelly (2014), installation and improper maintenance infusion cause various problems or complications, both locally and systemically, and studies showed 44% of patients experienced phlebitis, 23% had infiltration, and 20.83% had extravasation, and 44% had to undergo repeated infusion insertion due to wrong position. Pasaribu (2006) showed that infusion insertion which meet standard procedures as much as 27% good, 40% moderate, and 33% bad. Both studies above show in general there is still a lot of problems occur as a result of the infusion and the ability or performance of nurses still have to be improved so that fewer problems experienced by the patient as a result of the infusion. The fewer problems or complications experienced by patients will further accelerate the patient's recovery and further enhance patient satisfaction with the service received.

4. Ways to deal with infusion

Participants have their own ways in confronting and dealing with problems or obstacles that arise as a result of intravenous therapy. For the problem of swelling, jammed, as well as pain caused by the swelling and jammed infusion, the choice that most patients do is tell a nurse to help them. Then the nurse attempted to repair flow of infusion and if it could not, or for the swelling problem, then the infusion removed and installed a new infusion if needed. Ten participants who felt swollen and jammed explained that infusion which caused jammed infusion or swelling eventually removed by nurses and installed a new infusion. The frequency of infusion removed and installed new one varied of each participant, two times, three times, five times even up to ten times. This condition should to be a concern for caregivers to pay attention to the flow of the infusion.

A participant said:

"...often times jammed infusion...first time on the left hand, then to move to the right hand. There were seven times my infusion jammed ... I told nurse, then she tried to drain it, but could, so it should be removed and insert new intravenous cannula" (P12)

For the problem of limited movement or physical mobility due to infusion, most participants said requesting help from family members such as husband, wife, or child to help hold an IV while on the move, such as when went to the bathroom. Six participants expressed their thoughts asked for help their husband or wife to help hold the infusion bottle when the participants to the bathroom, as revealed by a participant:

"... Yes, sometimes when my husband is here, I ask him to help me to hold the bottle while I go to the bathroom" (P1)

Another participant said:

"If I go to bathroom, I ask my daughter to help me.. If not, jammed infusion will happen "(P6)

There are also participants who are hold infusion bottle into the bathroom by themselves. They hold themselves infusion bottle while to the bathroom to urinate or wash hands. Four participants said they were holding infusion bottle with a hand that is not infused in the bathroom then hang on infusion bottle on the bathroom wall. A participant said:

"If I go to the bathroom alone, I turned off the infusion. Then in the bathroom I hang on the bottle. That's how the way I go to the bathroom "(P3)

The results showed patient tried to resolve problems related to infusion independently or ask for help caregivers and families. Widyarini (2005) said satisfied or dissatisfied with the services provided, basically nurses are needed by patients. Patient need nurses because the nurses are felt very helpful, able to calm the patients, and the nurse is believed can accelerate healing. In conditions where cannot be independent, patients rely heavily on the services of nurses and the professionalism and competence of nurses to be very important in the treatment and cure of the patient. Making patients being independent is one of the goals of nursing interventions and in achieving independence, the assistance of the nurse and the family becomes important. Family plays an important role in patient care. Family support is necessary for a sick family member. Family support is believed to help individuals reduce or overcome the problem effectively (Sudiharto, 2007). Support and affection of a family member to other family members as well as attention to the socio-emotional needs of family members supporting factors in the healing process of patients (Setiadi, 2008)

CONCLUSION

This study was a descriptive phenomenology study in which the researcher interviewed 15 adult patients who being infused and hospitalized in Arifin Achmad Hospital. Four themes emerged in this study. They were perception regarding patient and infusion, goals of being infused, problems in using infusion, and ways to deal with infusion. Nurses are responsible for insertion and maintenance infusion and should explain completely and clearly to their patients related to infusion that they receive. Furthermore, nurses need to pay attention and deliver infusion care appropriately so that can reduce problems experienced by patients who receive infusion in order to increase quality of care for the patients.

REFERENCES

- Alexander, M., Carigan, A., Gorski, L., Hankis, J., & Perucca, R. (2010). Infusion nursing society, infusion nursing: An evidence-based approach. Third edition. St.Louis: Dauders Elseviers
- Daugherty, L. (2008). Peripheral cannulation. Nursing Standard, 22(52), 49-56.
- Daugherty, L. (2008). Peripheral cannulation. Nursing Standard, 22(52), 49-56.
- Daugherty, L., Bravery, K., Gabriel, J., Kayley, J., Malster, M., Scales, K., & Indwood, S. (2010). Standards for infusion therapy, The RCN IV Therapy Forum.
- Downing, M. (2004). Hermeneutics: An exploration. Nurse Researcher, 2004, 11(4), 30-3

- Edward, K. L. (2006). A clinical discussion about the clinical values of phenomenology for nurses. *Holistic Nursing Practice*, 2006, 20(5), 235-238.
- Gabriel, J. (2007). Infusion therapy part one: Minimizing the risk. *Nursing Standard*, 22(31), 51-56.
- Gromiko. (2009). Persepsi pasien tentang praktik pelayanan keperawatan di RSUD Kota Kurun Kabupaten Gunung. Skripsi, Fakultas Kedokteran Universitas Diponegoro. Tidak dipublikasikan.
- Jeli, M. M. (2014). Kepatuhan Perawat dalam melaksanakan pemasangan infus sesuai standar operasional prosedur di RS PK Muhammadiyah Gombong. Thesis. Universitas Muhammadiyah Yogyakarta. Tidak dipublikasikan.
- Lincoln, Y. S. & Guba, E. G. (1985). [Naturalistic Inquiry](#). Newbury Park, CA: Sage Publications.
- Pasaribu, M. (2006). Analisis pelaksanaan standar operasional prosedur pemasangan infus terhadap kejadian phlebitis di ruang rawat inap rumah sakit haji Medan. Tesis di Universitas Sumatra Utara. Medan. Tidak dipublikasikan.
- Phillips, L. D. (2005). *Manual of IV therapeutics*. Fourth edition. Philadelphia: FA Davis Company.
- Royal College of Nursing (RCN). (2005). *Standard for infusion therapy*. London: RCN IV therapy forum.
- Setiadi, (2008). *Konsep dan Proses Keperawatan Keluarga*. Yogyakarta: Graha Ilmu
- Smeltzer, S. C., & Bare, B. G. (2005). *Buku ajar keperawatan medical bedah* brunner & suddarth. Jakarta: EGC.
- Streubert, H.J., & Carpenter, D.R. (1999). *Qualitative research in nursing. Advancing the humanistic imperative* (2nd ed.). Philadelphia: Lippincott.
- Sudiharto. (2007). *Asuhan Keperawatan Keluarga dengan Pendekatan Keperawatan Transkultural*. Jakarta: ECG
- Wayunah. (2011). Hubungan pengetahuan perawat tentang terapi infus dengan kejadian phlebitis dan kenyamanan pasien di ruang rawat inap RSUD Kabupaten Indramayu. Tesis di Universitas Indonesia, Jakarta. Tidak dipublikasikan.
- Widyarini, M. M. N. (2005). Makna Profesionalisme Perawat dalam Perspektif Pasien. *Prosiding Seminar Nasional PESAT 2005*. 229-239

THE EFFECTIVENESS OF SOWAN PROGRAM HOLISTIC NURSING INTERVENTION ON PULMONARY TB PATIENTS' INDEPENDENCE LEVEL

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ABSTRACT

Pulmonary TB patients require prolonged treatment between 3-6 months, thus they require the ability to manage treatment, control of emotions and the ability to live a normal life (Clark, 2003). The purpose of this study is analyzing the effects of holistic nursing applied by "SOWAN" program on TB patients' physical independence, independence of psychology, social independence, and spiritual independence. The experimental quasi design is followed by qualitative data. The samples were taken from 60 suitable persons, consisting of 30 people in the control group and 30 people intervention group. Supportive and educative actions were provided by Supporting, Observation, Well-being, Action and Nursing program, abbreviated "SOWAN", with the assessment made by respondents who had the independent health card (Hibbard et al, 2004). The result of the study showed in the first meeting, the value of independence respondents was 1-3, indicated less awareness and required the proper knowledge and skills, in the second meeting, the participants were able to perform self-care with a value of 3-4, in the third to sixth meeting, the participants were able to be more independent with the value 4 and 5. The mean value of the intervention group have a difference in pre- and post-test with a value of $p = 0.000$. The delta value, is the change of mean in pre- and post-test in the intervention group and the control group, was 22.4667. There was a change in the level of independence, with a value of $p = 0.000$. Counseling can improve the patient's ability to overcome physical problems and improve the physical, social and psychological (El Hameed, Aly, Mahdy, 2012). This study proved a significant effect of holistic nursing applied by SOWAN program in increasing the physical independence, self-reliance psychological, social independence and self-reliance spiritual of pulmonary TB patients with a value of $p = 0.00$. "SOWAN" program can be given to chronic diseases in primary care such as KIE and AKMS.

Keywords: *SOWAN Program, Independent Health Card, pulmonary TB*

BACKGROUND

Pulmonary TB patients have to take medication for 6 months, should they not obey this, the risk of drug resistance may occur. Pulmonary TB patients have, in addition to a physical problem in the treatment, also social isolation and emotional changes due to their illness. Bio-psychosocial approach is needed so

that patients are able to develop their beliefs and habits, in order to perform self-care treatment programs (WHO, 2003).

The compliance in the treatment from patients with pulmonary TB, which is supported by DOTS program, still have some issues because it is only charged to the patients. Thus, the understanding of the compliance is transformed into obedience which is an agreement between patients and health care professionals that the patient is more active and responsible (WHO, 2003). The compliance is influenced by Bio-psychosocial approach that allows the patients to build confidence and habits.

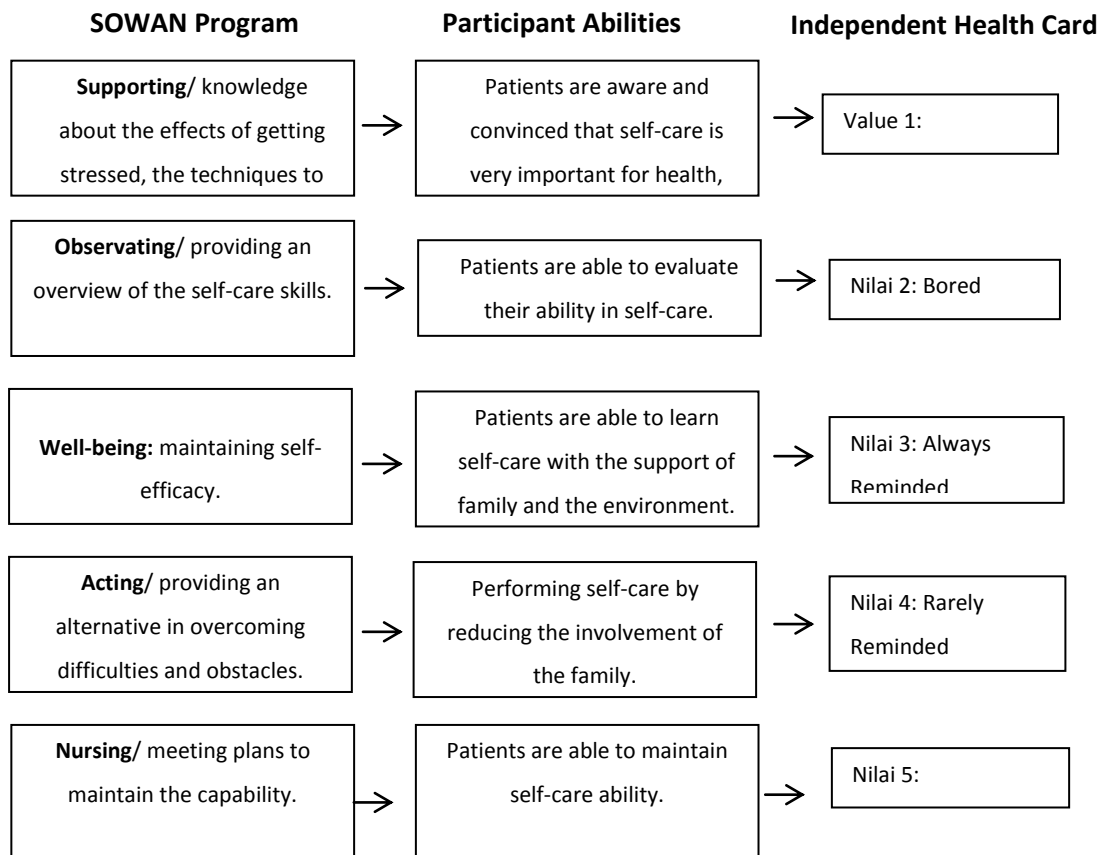
The model proposed in this study is the integration of self-management and nursing care that is based on the concept of self-care by Orem (2003), for the patients' independence in the fulfillment of their basic needs, this model also adopts some concepts of self-management, which are integrated in a model of Supporting, Observation, Well-being, Action and Nursing (SOWAN), to increase the independence, therefore, the question is "Can SOWAN program affect the physical independence, psychological independence, social independence, and spiritual independence?"

PURPOSE OF THE STUDY

1. The main purpose of the study is analyzing the effects of SOWAN program Holistic Nursing on the pulmonary TB patients' independence.
2. Based on the main purpose, the specific purposes are detailed as follows:
 - a. Analyzing the effects of "SOWAN" program holistic nursing on the pulmonary TB patients' physical independence, psychological independence, social independence, and spiritual independence.
 - b. Analyzing the qualitative data related to the qualitative data.

METHODS AND TOOLS

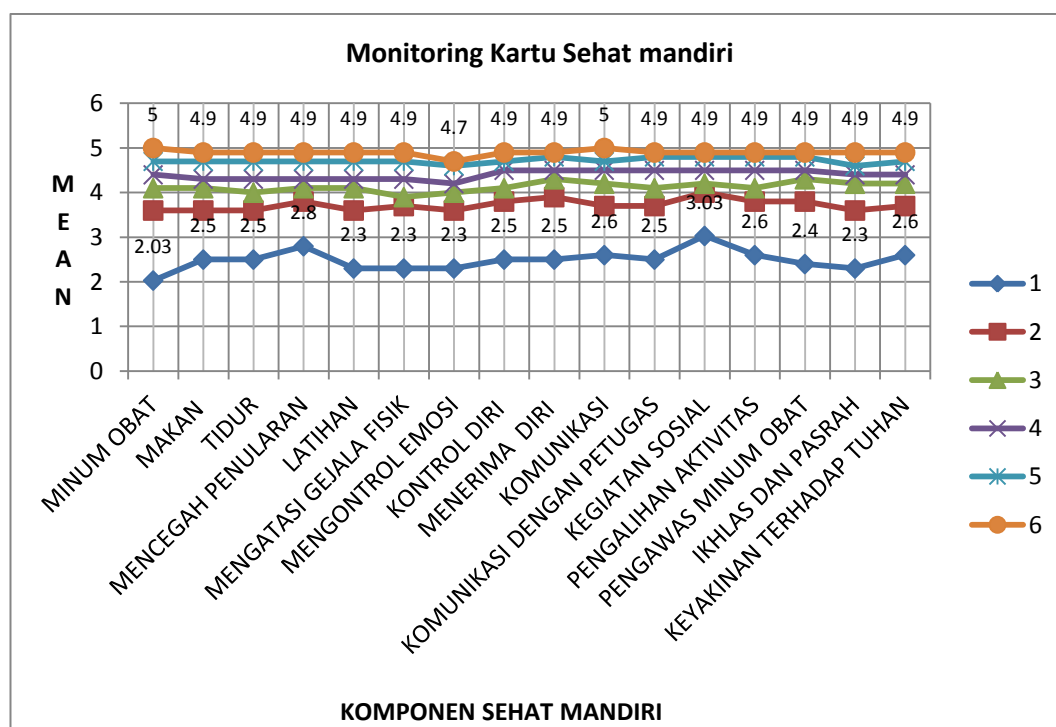
This study used a quasi-experimental research design with quantitative and qualitative approaches. Pre- and post-measurements were performed well in the intervention group and in the control group (Campbell and Stanley, 1966). The research instrument used a questionnaire which validity and reliability had been tested, including the ability assessment performed by respondents with independent health cards. The protocol of SOWAN program are as follows:



RESULTS AND DISCUSSIONS

Results of 6 meetings showed the development of independence level of the pulmonary TB patients which is showed on graph 1. There were 16 components evaluated by the respondents themselves, including the physical independence which consisted of medication, eating, sleeping, contagion prevention, exercise/sports, and physical symptoms resolve. Psychological independence consisted of control of emotions, self-control, and self-acceptance. Social independence consisted of communication within the family, with the officers, social activities and the ability to shift activities, and communication with the PMO. The spiritual independence consisted of sincerity and submissiveness, and the faith in God.

The graph 1 shows, in the first meeting, the value of independence was on the numbers 1-3, which means they still required knowledge and skills of self-care. In the second meeting, values of independence rose from 3 to 4, which means they began to exercise self-care. In the third to sixth meetings, the ranged from 4 to 5, which means that the participants were able to perform self-care and maintain it.



Graph 1. Independent Health Card, assessment by respondents

Table 1. The delta value differences on Independence Variable physical, psychological, social and spiritual in the intervention and the control groups

| Variables | | Mean \pm SD | | p-value |
|------------|-----------------|---------------------------|---------------------------|---------------------|
| | | Control Group | Intervention Group | |
| Self-Care | Pre | (39,2667 \pm 4,50236) | (32,8667 \pm 6,89194) | 0,073 ^a |
| | Post | (39,5333 \pm 5,21095) | (55,3333 \pm 1,02833) | 0,000 ^{b*} |
| | Self-Care Delta | (0,2667 \pm 2,83978) | (22,4667 \pm 6,81142) | 0,000 ^{b*} |
| Physic | Pre | (12,0333 \pm 2,34128) | (12,4667 \pm 1,67607) | 0,448 ^b |
| | Post | (12,5000 \pm 2,19325) | (15,9333 \pm 0,25371) | 0,000 ^{b*} |
| | Physical Delta | (0,4667 \pm 2,47377) | (3,4667 \pm 1,75643) | 0,000 ^{b*} |
| Psychology | Pre | (10,4000 \pm 1,56690) | (8,0667 \pm 2,36254) | 0,093 ^a |

| Variables | | Mean \pm SD | | p-value |
|-----------|---------------------|------------------------------|------------------------------|---------------------|
| | | Control Group | Intervention Group | |
| | Post | (10,2333 \pm 1,63335) | (15,8000 \pm 0,40684) | 0,000 ^{b*} |
| | Psychological Delta | (-0,1667 \pm 0,53067) | (7,7333 \pm 2,33317) | 0,000 ^{b*} |
| Social | Pre | (7,8000 \pm 1,82700) | (6,3667 \pm 2,09241) | 0,010 ^{b*} |
| | Post | (7,5000 \pm 1,79559) | (11,8333 \pm 0,37905) | 0,000 ^{b*} |
| | Social Delta | (-0,3000 \pm 0,95231) | (5,4667 \pm 2,09652) | 0,000 ^{b*} |
| Spiritual | Pre | (9,0333 \pm 2,38506) | (5,9667 \pm 3,05674) | 0,000 ^{b*} |
| | Post | (9,0000 \pm 2,43537) | (11,7667 \pm 0,67891) | 0,000 ^{b*} |
| | Spiritual Delta | (-0,0333 \pm 0,18257) | (5,8000 \pm 2,96415) | 0,000 ^{b*} |

The table shows that the value of self-care delta as a whole in the intervention group was 22.4667, whereas in the control group was 0.2667, with $p = 0.000$, meaning that the overall self-care had significant difference. The physical self-care in the intervention group was 3.4667, whereas in the control group was 0.4667, with $p = 0.000$, meaning that physical self-care had significant difference. The psychological self-care in the intervention group was 7.7333 whereas in the control group, -0.1667, with $p = 0.000$, meaning that psychological self-care had significant differences. The social self-care in the intervention group was 5.4667, whereas in the control group was -0.3000, with $p = 0.000$, meaning that the social self-care went well. The spiritual self-care in the intervention group was 11.7667, whereas in the control group 9,000, with a value of $p = 0.000$, meaning that there were significant differences. The success of the cause caused by the followings.

According to these data it was evident that the "SOWAN" program affected the ability of the patients in self-care.

The result, which corresponds the study of self-care program on patients with pulmonary TB, shows a significant increase in the ability to manage physical condition and has some impacts on the physical, mental, and social condition of adult patients with pulmonary TB (El-Hameed, Aly, Mahdy, 2012). It means that outcome-related program and clear objectives would allow the patients achieving the goals. In the study conducted by the researcher, patients who wish a speedy

recovery were capable of nursing themselves to speed up the healing process. This is also supported by research supportive educational program on patients with pulmonary TB in the community which had been conducted in 2012 in Makasar, with the result shows that the patient independence integration model were able to improve their the knowledge and independence skills of the family and care for pulmonary tuberculosis patients in their houses (Syattar 2012).

Conducting "SOWAN" program turned out to have some impacts on the independence, such as the supporting act by the nurses and the ability of family in giving confidence to the respondents that self-care us very important in healing process. This was supported by the notion that social support greatly affects the ability to live with chronic disease (Hegelson and Cohen, 1996), adherence in having medication was influenced by social support, as well as the confidence factors in health care (Horni & Weinman, 1999). Respondent supports in gaining confidence and trust was an important first step for the patient independence program. Therefore, the obstacles in "stop TB" program that could be overcome by the patients' abilities in taking responsibility for their own self-care, adequate information is provided by having the respondents to ask if there are obstacles in self-care. In social independence, patients could independently improve the ability in reducing stigma.

The involvement of patients in the medication through self-monitoring could provide satisfaction, as they could play an active role in decision-making, participate in the health care system, avoid the embarrassment and stress, and help the government to overcome the limited number of health workers in the community (Supardi and Notosiswoyo, 2005). After believing that self-care is needed by the participants, the participants would endeavor to increase their knowledge and skills in self-care (Hibbard, Stockard, Mahoney and Tusler, 2004).

The increasing Self-efficacy drove the patients to improve their skills in self-care so their abilities in self-care increase. The increasing independence was caused by the increasing self-efficacy, by figuring out the obstacles and trying to solve them, the respondents were able to increase their self-efficacy (Richard and Shea (2011). Respondents maintained the ability to continue the self-care, by fulfilling the patient needs to keep the independence ability through facilitating respondents either the knowledge or the facility which suit the patient's abilities, thus the patient would still able to perform self-care skills. The proximity and quality as well as the confidence of patients could be increased (Orem, 2001).

CONCLUSIONS

1. SOWAN Program Holistic Nursing is influential in improving physical independence, psychological independence, social independence, and spiritual independence of pulmonary TB patients.
2. Participants self-assessing through independent health cards can improve skills in performing self-care holistically.

SUGGESTIONS

1. Nursing Education:

- a. This study produces holistic nursing book as an additional reference in study process.

- b. As the study program vision and mission that develop holistic nursing, this study can be treated as a material in developing holistic nursing.

2. Community Pulmonary Health Center:

AKMS Program from Health Ministry could be applied through SOWAN program.

3. Research:

Future studies could consider matters related to the internal and external validation such as:

- Development of the same age, the young adults, the older adults or the elders.
- Initial conditions with the same degree of independence.
- Avoid *hawthorn* and *novelty effect* of the same room used for all patients.
- The ability in using environmental factors as a therapy, for example patients prefer relaxation with music, or the therapeutic wall colors, with a spacious room.

REFERENCES

- Carver C S(2011) Coping , In Contrada R and Baum A editor *The Handbook of stress Science,biology, psychology, and Health*,Springer Publishing Company.
- Chaves, P. R dan Laborin, R. L. (2007). Results of Directly Observed Treatment For Tuberculosis in Esenada, Mexico: Not All DOTS Programs Are Created Equally. *International jornal tuberculocis lung diseases*. 11(3) : 289-292
- Orem, D. (2001). *nursing: concept of practice*. Michigan: Mosby.
- ElHameed.SA, Aly.A, Mahdy.Y (2012) Effect of Counseling on Self Care Management among Adult Patient with Pulmonary Tuberculosis. *Life Science Journal*. 9 (1) : 956 – 964.
- Hibbard.J,Stockard.J,Mahoney.E.R and Tusler (2004) Development of the patient Activation Measure(PMA): Conceptualizing and measuring Activation in patients and consumers. *Health services research* 39:4, part 1.University of Oregon, Washington.
- Jaarsma, T. (2000). Self care and quality of life in patients with advanced heart failure: the effect of a supportive educational intervention. *Cardiac Care Heart and Lung Journal*, 29(5).
- Johnson.K,Elbert-Avila.K, Tulsy.J (2005). The influence of spiritual belief and practice on the traetment preferences of African Americans : A.review of literature. *Journal of the American Geriatrics Sociaty*, 53,711-719.
- Joanne e Jordan, A. M. (2008). Enhancing patient in chronic disease self management in Australia: the need for An integrated approch. 189(10).
- Jordan, Joanne E., Briggs, Andrew M., Brand, Caroline A., dan Osborne, Richard H. (2008). Enhancing patient in chronic disease self management in Australia: the need for An integrated approch. 189 (10).
- Lorig.K,Holman.H,Sobel.D,Laurent.D,Gonzaler.V,Minor.M (2006) *living a healthy life with chronic condition. Self management of heart diseases ,arthritis, diabetes,asthma, bronchitis, emphysema and others*. Bull publishing company. United State.

- Marra, C.A., Marra, F., Cox, V.C., Palepu, A., dan Fitzgerald, J.M. (2004). Factors Influencing Quality of Life in Patients with active tuberculosis. *Health and Quality of Life Outcomes*. 2 : 58
- McLaughlin-Renpenning, K., & Taylor, S. G. (2002). *Self-care theory in nursing: Selected papers of Dorothea Orem*. New York: Springer.
- Richard.A.A,Shea.K (2011). Delineation of Self-Care and Associated Concepts. *Journal of Nursing Scholarship*. 43 (3): 255-264
- Sakti, H. (2011). *Efektifitas Psikoterapi Transpersonal dan Keterampilan Konseling Interaktif Terhadap Ketaatan Minum Obat dan Kadar Interferon Gamma (IFN- γ) Penderita Tuberkolusis*. (Unpublished Thesis). Program Doktor. Universitas Gajah Mada.
- Schreurs, K.M.G., Colland, V.T., Kuijer, R.G., Ridder, D.T.D.d., dan Elderen, T.V. (2002). Development, Content, and Process Evaluation of a Short Self-Management Intervention in Patiens with Chronic Diseases Requiring Self-Care Behaviours. *Elseivier. Patient Education and Counseling*. 51 : 133-141.www.elsevier.com/locate/pateducou.
- Wilson. D.R (2010) stress management for adult survivors of childhood sexual abuse: Holistic inquiry. *Western journal of Nursing research*, 32(1) 103-127. <http://wjn..sagepub.com.com>

EFFECTIVENESS OF THE STRATEGIES EMPLOYED BY SMOKING CESSATION CLINICS

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ABSTRACT

Background: Cigarette smoking is the leading preventable cause of mortality, responsible for nearly six million deaths worldwide. According to the Centers for Disease Control and Prevention (CDC) has reported tobacco use kills more than 8 million people each year by the year. Smoking cigarettes is harmful to people, mental health professionals have been modestly successful in helping people quit. Counseling and Behavioral modification as strategies are important to help smoking cessation. self-efficacy (Bandura, 1982) define as belief one's ability to perform change behaviors for a desire outcome. Modeling as learning process from imitate to change new behavior. Numerous research studies have found that a person's perceived confidence in being able to quit predicts smokers successfully stop smoking.

Objective: To study the effectiveness of the strategies employed by smoking cessation clinic.

Methods: During study participant access to smoking cessation clinic on Jan – Dec 2013, a total of 68 smokers who attended at least 1 intensive counseling and enhance self-efficacy to smoking cessation, based on Bandura's Social Cognitive Theory, were provide knowledge about harm effects of tobacco use and benefits of smoking cessation; smoking assessment Fagerstrom test for nicotine dependent and pattern of smoking; motivation and willing to quit smoking; provide knowledge about how to manage withdraw symptoms; talking about smokers who success story as model; suggest practice strategies to prevent relapse and evaluate outcome for this study which included an abstinence rate up to 1 year.

Results: A self-report status smoking status and checking carbon monoxide levels. Subjects reduced smoking by 14.4 % stopped smoking by 32.8 % still smoke 5.26% and loss follow up 47%.

Discussion: The study found that using counselling as 5 A model and observe learning theory can enhance motivation and perceived confident to try to successfully stop smoking. Furthermore provided follow up for 1 year and check CO analyser for reinforcement and enhance motivation.

Conclusion: The findings from this program can help smokers to want to stop smoking to have motivation and perceived confident to stop smoking. Then should be taken practice guideline to improve smoking cessation interventions for help smokers in smoking cessation clinic.

Keywords: strategies employed, smoking cessation clinic

BACKGROUND

Cigarette smoking is the leading preventable cause of mortality, responsible for nearly six million deaths worldwide (WHO, 2011). According to the Centers for Disease Control and Prevention (CDC) has reported tobacco use kills more than 8 million people each year by the year 2030 (CDC, 2008), the death toll from smoking will rise to due to poisoning from the toxins found in cigarettes. Toxins such as nicotine, tar, carbon monoxide, hydrogendioxide, nitrogendioxide, ammonia and cyanide cause noncommunicable diseases (NCDs) such as atherosclerotic cardiovascular disease, lung cancer, and chronic obstructive pulmonary disease (CDC, 2008; Rigotti, Munafo & Stead, 2008). Smokers who want to quit are aware of the harm of smoking but it is very difficult to successfully stop smoking due to lack of self-confidence, fear of withdrawal symptoms, exposed to tobacco used because of social environment (WHO, 2012). Methods of stop smoking can be divided into 2 ways – pharmacotherapy and non-pharmacotherapy (Wateesatokit, 2008).

The research study found that motivation and self-efficacy is the association to stop smoking (Matthew, 2003). Studies abroad about smoking cessation found that people who successfully stop smoking feel that they have higher competence and motivation to stop smoking than those who failed (Khongsamai, 2011). Because those smokers have motivation that leads to behavioral changes. The main concept of the transtheoretical model (TTM) is that people go through changes as a process. The TTM measures intention and behavior using 5 stage of change: 1) Precontemplate as do not intending to change behavior within the next 6 months. 2) Contemplation as intend to take action within 6 month. 3) Preparation as intend to change behavior within 1 month. 4) Action as have already adopted new behavior and maintained behavior for more than 6 months. 5) Maintenance as have maintained behavior for more than 6 months (Shunaker, Schon & Ockene, 1998). Self-efficacy refers to the confident that an individual has in his or her ability to take action in difficult situations. Modeling as Learning process from imitate to change new behavior consist of: 1) attention process as cognitive abilities that “regulate sensory registration of modeled actions” 2) retention process were those that took “transition influences and converted to enduring internal guides for memory representation” 3) performance process are those that move component action stored in memory in to overt action resembling that of the modeled behaviors. 4) motivation processes determine whether or not those behaviors emerge as overt action. Moreover, Bandura found that Learning and performance related to the role of verbal behavior as rehearsal (Fryling, Johnston & Hayes, 2011). The research study found that smokers who have higher self – efficacy were significant in explaining stage of smoking cessation after controlling for nicotine dependence (Ham & Lee, 2007).

The Healthcare professionals have opportunities to help tobacco user to quit smoking. Because they have multiple contacts with patients in a variety of health care settings (Fiore, 2011). The studies have revealed the importance of evidence supporting best strategies for helping people to stop smoking as described in the ‘5 As’ approach delineated in the United states public Health Service (PHS) Clinical practice guidelines on Treating Tobacco use and

dependence. the '5 As' approach consists of: 1) *asking* about tobacco use at every opportunity; 2) *advising* all smokers to quit; 3) *assessing* the tobacco user's willingness to quit; 4) *assisting* the tobacco user with a specific cessation plan; 5) *arranging* follow up – up contacts (Fiore, Bailey, Cohen, Dorfman, Goldstein, & et.al., 2002). Hospitalization provides a propitious opportunity to deliver tobacco – use interventions. The research study found that smoking cessation counselling that begins during hospitalization and provides supportive contacts for over 1 month after discharge increases the odds of smoking cessation by 65% at 6 to 12 months over (Rigotti, Munafo, & Stead, 2008). Bumrungrad International Hospital have been hospital smoke free and established Smoking Cessation Clinic which works as a multidisciplinary team such as, Physician, Registered Nurse and Clinical nurse coordinator which collaboration helps smokers to stop smoking by using '5 A' strategies. We take care of inpatient and outpatient. Our hospitals so that smokers who are hospitalized have an opportunity to initiate quit smoking.

OBJECTIVE

This study aims to evaluate the effectiveness of Strategies Employed by Smoking Cessation Clinics.

METHODS

Samples: The participants aged 18 and over. The participants smoke more than one cigarette per day for more than one year. **Instrument:** 1) Fagerstrom Test for Nicotine Dependence questionnaire consisted of six questions. Items 1 and 4 have score range of 0-3. Items 2, 3, 5 and 6 have the score range of 0-1. A total scores 7-10 means the level of dependence on nicotine is high, score 4-6 means the level of dependence on nicotine is moderate, score 0-3 means the level of dependence on nicotine is low. 2) Assessment pattern of smoking behavior addiction. **Intervention:** a total of 68 patients access to smoking cessation clinic from January - December 2013 who attended at least 1 intensive counseling and enhance self-efficacy to smoking cessation, based on Bandura Theory by a clinical nurse coordinator were subjects as the following:

- 1) Provide knowledge about harm effects of tobacco use and benefits of smoking such as **Cardiovascular Disease, Pulmonary disease, Cancer, Hypertension, Diabetes and Chronic Kidney Disease**. And asking question like this for example: “ Suppose you don't stop smoking cigarettes , What is the bad thing that might thing happen? “ What is the good thing you could imagine after you stop smoking? So talk about story smoker who had almost die from smoking cigarette.
- 2) Smoking assessment Fagerstrom test for nicotine dependent and pattern of smoking.
- 3) Assessment motivation and willing to quit smoking by asking question for example: “If you would like to give up smoking I can help you.” Would you be interested in stop smoking?” After that tell them “you have a good chance to start to stop smoking because when you stay in hospital like you stay no smoking area”. Then advise to set quit date and arrange an appropriate date to stop smoking.

- 4) Provide knowledge about mechanisms of smoke addiction: cause of smoking can be divided into 2 main aspects which are mental and social , physical. Nicotine stimulates the release of brain chemical substance which makes smoker feel satisfied, happy, lose appetite, have better memory and concentration, relieve anxiety, etc. Ceasing causes withdrawal symptoms which may start within 4 – 6 hours, get worse within 3 – 4 days, and disappear within 2 weeks. Provide knowledge about how to manage withdraw symptoms such as urges to smoke, mouth ulcers, constipation, headache, depressed, anxious, restless, bad tempered irritability, Loss of concentrate , Increase appetite, trouble sleeping, fatigue, weight gained. (McEwen, Hajek, McRobbie, & West, 2007)
- 5) Talking about smokers who success story as model. For example: If smokers concerned about gaining weight if he/she stop smoking. And ask them how much do you think the average person gains in the first year after quitting?” So sharing experiences of ex- smoker who success to stop smoking how to change behaviour to stop smoking and control body weight. And ask smokers “how to change behaviour“ so give them to describe.
- 6) Suggest practice strategies to prevent relapse and How to coping with stress and urges to smoking.
- 7) Evaluate outcome for this study which included an abstinence rate up to 1 year for confirm abstinence and to boost motivation.

RESULTS

Demographic characteristic

Smokers in smoking cessation clinic are males 63(92.65 %) females 5(7.35%); average age 51 years 9 months. Most of the smokers are married 67(98.5%); occupational such as business 33 (48.5%), employee company 8 (11.76%), retired 25(36.76%), housewife 2(2.94%). The smokers are Thai 20(29.42%), Foreigner 48(70.58%).

To obtain the Fagerstrom Test of Nicotine Dependence questionnaire mean of nicotine addiction level is 4.5, Average Number of Pack - Years as 32.72, pattern of smoking: smoked from nicotine dependence 18(26.47%), smoked from reduce stress 20(29.4%) and smoke from habit and social 30(44.11 %) respectively.

Table 1. Number of smokers were referred from Health care Provider (Specific disease).

| Specific disease | Number of patients | Percent |
|------------------|--------------------|---------|
| Stroke | 23 | 33.82 |
| Heart | 21 | 30.88 |
| Diabetes | 9 | 13.23 |
| Pulmonary | 8 | 11.76 |
| Hypertension | 4 | 5.88 |
| CKD | 3 | 4.41 |
| Total | 68 | 100 |

Number of patients were referred from health care provider (Specific disease) in clinic include 68 Participants as the following Stroke 23(33.82%), Heart 21(30.88 %), Diabetes 9 (13.23 %) Pulmonary 8(11.76%), Hypertension 4(5.88%), and CKD 3(4.41 %) respectively.

Table 2. Number of smokers had reason to quit smoking.

| Motivation | Number of patients | Percent |
|------------------|--------------------|---------|
| Physician advise | 29 | 42.64 |
| Health | 18 | 26.47 |
| Disease | 14 | 20.58 |
| Family request | 6 | 8.8 |
| Image | 1 | 1.47 |
| Total | 68 | 100 |

Number of patients had reason to quit smoking as the following: Physician advise 29(42.64 %), Health 18(26.47%), Disease 14(20.58 %), Family request 6(8.8 %), and image 1(1.47%), respectively.

Table3. Evaluate Outcome of smoking cessation after follow up 1 year.

| Outcome smoking Cessation | Frequency | Percent |
|---|-----------|---------|
| Stop smoking | 22 | 32.8 |
| Reduce smoking | 10 | 14.42 |
| Current smoker | 4 | 5.26 |
| Loss Follow up (assumed to be current smoker) | 32 | 47.52 |
| Total | 68 | 100 |

Outcome smoking cessation as the following stop smoking 22 (32.8%), Reduce smoking 10(14.42%), Current smoker 4(5.26%), Loss Follow up (assumed to be current smoker) 32 (47.52%) respectively.

DISCUSSION

The study found that Health care provider helps smokers to stop smoking using Ask and Advise so refer to smoking cessation clinic. The result after Follow up 1 year show that smokers can stop smoking 32.8% and loss follow up 47.52% because they are foreigner so they go back to theirs country and change call number so cannot contract which can lead to under- reporting of abstinence rates. The study found that using individual counseling smoking cessation as using 5 A model and observe learning theory can enhance motivation and perceived confident to try to successfully stop smoking. Furthermore provided follow up for 1 year and check CO analyzer for reinforcement and enhance motivation. According to the research found that smoking cessation counseling that begins during hospitalization and provides supportive contacts for over 1 month after discharge increases the odds of smoking cessation by 65% (Rigotti, Munafo, Stead, 2008)

The study found that mostly reason to quit smoking due to Physician advise 29(42.64 %), and Health 18 (26.47%). According to the research study

found that motivation is the key to stop smoking (Williams, Gagne, Ryan & Deci, 2002). Therefore health care provider advice to smokers can enhance motivation and refer to smoking cessation clinic which provide strategies to help smokers to change behavior to quit smoking.

CONCLUSION AND RECOMMENDATION

The findings from the strategies using counseling and self-efficacy enhancement to assist smokers quit smoking. This program can help smokers to want to quit smoking to have motivation and confident to quit smoking. Moreover, they have modeling who success to quit smoking so they learn to imitate to change new behavior. Addition, smoking cessation clinic take concept like this to produce vide (VDO) for education to patients.

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REFERENCES

- Centers for Disease Control and Prevention (CDC). (2008). Smoking-attributable mortality, years of potential life lost, and productivity losses--United States, 2000-2004. *Morbidity and Mortality Weekly Report*, 14; 57(45):1226-8.
- Fiore, M. C. (2011). Tobacco use and dependence: A 2011 Update of Treatments. *Medscape Education Internal Medicine*.
- Fiore, M.C., Bailey W.C., Cohen, S.J., Dorfman, S.F., Goldstein, M.G. & et. al. (2000). *Treating tobacco use and dependence: Quick reference guide for clinicians Rockville (MD)*: U.S. Department of health and human Services. Public Health Service.
- Fryling, M.J. Johnston, C. & Hayes, L.J. (2011). Understanding observation Learning: An Interbehavioral Approach. *The Analysis of Verbal Behavior*; 27(1): 191-203.
- Ham, Ok. K. & Lee, Y. JA. (2007). Use of The Transtheoretical Model to Predict Stages of Smoking cessation in Korean Adolescents. *Journal of School Health*; 77(6):319-326.
- Khongsamai, T. (2011). The Effect of the Four Paths of Accomplishment Program on Intrinsic Motivation for Smoking Cessation. *Journal Nursing Science*. 29 (10): Jan - Mar: 63-72.
- Matthew, A.G. (2003). *Self- efficacy, Smoking and Smoking cessation*. A thesis in conformity with the requirements for degree of Doctor of Philosophy Department of Human Development and Applied Psychology Ontario Institute for Studies in Education of University of Toronto.
- McEwen, A., Hajek, P., McRobbie, H. & West R. (2007). *Manual of smoking cessation*. Blackwell Publishing Ltd. P43-48.
- Nancy A. Rigotti, Marcus R. Munafo, Lindsay F. Stead.(2008). Smoking Cessation Interventions for Hospitalized Smokers: A Systematic Review. *Archives of Internal Medicine*; 168 (18):1950-60.

- Shunaker, S.A., Schron, E.B. & Ockene, J. K. (1998). *The Handbook of Health Behavior Change*. (2nd Edition). springer publishing company. P60 - 62.
- Wateesatokit, P. (2008). *To promote smoking cessation in routine*. In: Prakit Wateesatokit & et al, editor. Harm smoking: be alert to danger. Bangkok: A foundation to promote non - smoking, P2 -14.
- Williams, G.C., Gagne, M., Ryan, R.M. & Deci, E.L. (2002). Facilitating autonomous motivation for smoking cessation. *Health Psychology*. 21(1):40-50.
- World Health Organization. (2011). Report on the Global Tobacco Epidemic 2011: Warning about the danger of tobacco. *World Health Organization*, Geneva.
- http://whqlibdoc.who.int/publications/2011/9789240687813_eng.pdf (Accessed on June 27, 2015).
- World Health Organization. (2012). Tobacco [Internet]. Geneva: Available from: <http://www.who.int/mediacentre/factsheets/fs339/en/index.html> (Accessed on June 27, 2015).

PATTERN OF COMPLEMENTARY THERAPY USED BY PATIENTS IN DIABETES CARE REGIMENT

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ABSTRACT

Background: Diabetes is chronic health problem which couldnt be cured. Use of medical therapy in a long term need huge budget and increase risk of adverse effect. Complementary/ alternative medicine (CAM) is a choice for patient in diabetes care management beside conventional medical therapy. Some of CAM were'nt have enough evidence based support respect to its benefit and adverse effect.

Objective: Aim of the study was to explore pattern of use of CAM by diabetic patient.

Methods: The study used qualitative descriptive phenomenology method and data collected by in-depth interview. Participants were 4 diabetic patient and 2 of diabetic patient family member who used CAM.

Result: Diabetes patients perceive complementary therapy as an effort to manage disease, complement to other diabetes care regiments, and substitutes or complements of medical drugs therapy. Reasons of use of complementary therapy were low cost, practical, and effective therapeutic impact. CAMs used by diabetes patient were herbs, animal, supplement diet, pray, and massage. Sources of information of CAM were families, friends, and traditional healer. Herbs ingredients were boiled, applied with hot water, made like a coffee, or cooked like salads/ vegetables. Impact of complementary therapy used faced by diabetic patient were both beneficial and detrimental.

Discussion: Study findings congruent with other studies. Diabetes patient manage CAM administration by themselves and no consultation with health professionals that may harmful for them eventhough they only experience minor side effect. Its need further study to find conclusive CAM effectivity and safety.

Conclutions: The study findings consist of diabetes patient perception about CAM, reasons of CAM uses, how to uses CAM, and impact felt after CAM uses. Use of complementary therapy need to be consulted with health professionals to help diabetic patient consider its adverse effects and beneficials.

Keywords : Diabetes, Complementary/ Alternative Medicine (CAM)

BACKGROUND

Diabetes is a chronic condition that is a growing concern. The prevalence of diabetic patients in the world is high and tend to increase and become national epidemic threat in Indonesia because of high and increasing prevalence of the patients (WHO, 2011). Diabetes patients spread across all regions with some provinces have higher above national prevalence rate is 1.1%, including Central Java, which reached 1.3% (Research and Development Body of Indonesian MoH, 2008). In Semarang Diabetes case also tend to be high and is ranked 2nd of non-communicable diseases as hypertension in the period between 2008-2012 (Semarang City Health Office, 2013).

Diabetes can not be cured and may cause irreversible abnormalities. Diabetes is the originator of neuropathy and retinopathy which causes blindness, besides the residual symptoms of depression that often occurs in chronic health conditions (Davidson & Meltzer-Brody, 1999 in Anderson & Mc Farlane, 2004). The goal of treatment in chronic health conditions like Diabetes not to heal but only control the symptoms. This is due to the lack of technology that can be applied for healing program (Anderson & Mc Farlane 2004). Diabetic patients must receive chronic condition in itself will last a lifetime.

Diabetic patient should modify lifestyle related to diet, physical activity and medication program. Continues diet restriction and drug consumption cause boredom, depression (Isworo, 2008), financial reduction because they have to allocate budget for drugs (NIDDK, 2011; Andayani, 2006) as well as face the possibility of side effects of drugs, such as oral hypoglycemic drugs include nausea or less appetite, sometimes causing edema in the legs, as well as frequent flatulence (Kariadi, 2009).

Care management complexity and impact of the diabetes causes patient choose complementary alternative medicine (CAM) as part of their management of care. Many people with diabetes use or practice CAM as supplement or replacement of conventional therapy. Studies found that 5.1 % diabetes patient were attending CAM practitioner in Australia (Yen et al (2013), and 63% use CAM in India (Bhalerao et al, 2013). Utilization of CAM among Indonesian people is also quite high (CBS, 2012).

Utilization of CAM have a positive and negative impact on patients with diabetes. Study by Taylor (2009) suggests that the practice of yoga in patients with diabetes beneficial because it improves physical fitness, physical and mental relaxation, stress tolerance, self-awareness, coping skills, social support, as well as a feeling of well-being. Research shows eucalyptus supplement in patients with diabetes are not effective in helping control blood sugar, otherwise eucalyptus supplementation can cause or worsen liver disease in people who are sensitive. Researchs on other CAM materials used by diabetic patients also indicate negative impact (NCCAM, 2008).

OBJECTIVE

The study was conducted to investigate pattern of CAMs used by diabetic patient.

METHODS

This qualitative study utilised phenomenological approach. The participants were 4 diabetic patient and 2 family member of diabetic patient in Pudak Payung and Padangsari Village Banyumanik District of Semarang, Indonesia. The inclusion criteria of participants were able to communicate verbally and understand Indonesian, had been at least 2 years diagnosed with diabetes and use of complementary therapies in the treatment of diabetes.

RESULTS

Results of the study identified four themes consist of perception of diabetic patient to CAM utilities, reasons to use CAM, how to use CAM, and impact felt after CAM use.

Theme 1. Perception of CAM utilities

Participants perceive CAM as a complement to medical drug therapy, substitute medical drugs, complementary therapy in addition to other diabetes regimens, as well as the effort or endeavor to cure. Participant also state that one specific herbs is fit to one specific people. Examples of participant statements as follows:

"... we didnt continue (medical drug therapy), than we just started use herbs, ..." (P6)

"... long time ago when he (husband) consume drugs he didnt drink herbs, but now he consume drugs regularly, he just drinks herbs as supplement when his body was not fit ..." (P6)

"... drugs, both medical or herbs are just supplemental, the most important is food and drinks must be restricted, ... what we look for ... drugs (herbs or medical) is an effort ... hope I'll had long life, we tried but that there has been decisive, it must be ready ... but we must try, we do not despair ..." (P2)

"... people were not same (in accepting herbs) one herb may fit to one diabetic patient, otherwise may not ..." (P1)

Theme 2 Reasons to use CAM

Some of reasons of CAM used by participants were low cost, practical, and less or even no side effects, and more effective result compared to medical drugs. Examples of participant statements concerning the utilization of CAM as follows:

"... clearly, herbs was lower cost compared to medical drugs regiment..." (P6)

"... when the (medical) drugs is depleted the symptoms is come, than i ask my traditional healer, when its healed, its enough, until long time ... now is about a year i didnt come to my traditional healer.." (P3)

Theme 3 How to use CAM

The phenomenon of how participants use CAM identified in this study include the type of utilized CAMs, source of information about, sources of materials, how to process materials, as well as how to use or consume it.

Complementary therapies which used or made by the participants in the study include herbs, animal, prayer, diet supplements and massage. Herbs used by participants include bitter melon (*momordica charantia*), "mahoni" seeds,

"ciplukan" (roots, stems, leaves), Heartleaf (*Boussingaultia basseloides*), "dandang gendhis", avocado seed, "sambung nyowo", "mahkota dewa" (*Phaleria macrocarpa*), cinnamon, bay leaves, tailings leaf, dull leaves, "kenci-kencian" leaves, mangosteen (*Garcinia mangostana*), "insulin" leaf, "mlanding jowo", "ketul" leaves, "meniran" leaf, "sambiloto" (*Andrographis paniculata*) and "temulawak" (*Curcuma xanthorriza*). Animal which used as therapy by participant was "undur-undur". Examples of participant statements about the type of used or performed CAM are as follows:

"... herbs we used were cinnamon, bay leaves, tailings leaves, loaves leaf ..." (P6)

" ... the traditional healer massage my head around eyes, he said it performed to prevent blindness among diabetic patient ... " (P3)

" ... i also ever tried "undur-undur" ... (P4)

Sources of information about CAM used or carried by participants ranged from relatives, fellow sufferers of or non-diabetic patients, neighbors, traditional healer and also mass media. Participant arrange the use of herbs by them self and family, they did not consult it with health professionals because they doubtfully if they competent about it and being open to discuss it or not. Examples of participant statements are as follows:

"... my sister said it doesnt need expensive drug to cure diabetes, its simple, just consume ... "mahoni" seeds, which already dry, fallen, just only once a day ... "(P6)

" i didnt (communicate the use of herbs to the doctor), i worry it becomes mistakes, its my own beliefs that herbs were natural ... " (P1)

How to obtain material for CAM i.e herbs and animal used or made by the participants is to be given by the family, take it directly from environment around home as well as by buying it. Examples of statements of participants about how to obtain materials for complementary therapies are as follows:

"... we had try "binahong" and "ciplukan" leaves, "dhandhang gendhis" ... there they are on the ground (pointing plants on the front porch of the house) ... we also plant "Sambiloto" ... "(P1)

How to cultivate herbs for therapy made by participants include boiled, cooked as vegetables, and brewed, for example the following statements:

"... "ketul" leaves, cooked like vegetables ("sayur bening, gubahan, bobor") ..."(P6)

Participant consume herbs or animal by drink or swallow directly once or twice a day regularly or when complaining symptoms and stop when they bored, the body was fit, or they receive information about new herbs that they were interested to try. Examples of participants statements about how to use or consume herbs or animal herbs as follows:

" ... when i still feel the symptoms i continue to drink (herb) when it decrease i stop ... " (P2)

" ... ("Binahong") was boiled seven, nine, or eleven leaves, two cup (\pm 250 ml) converted to a cup, than drank in the morning and afternoon, ("mahoni" seeds) were swollen directly, its so bitter ... " (P1)

Theme 4 The impact felt after CAM use

CAM used impact felt by the participants both positive and negative. Positive impacts include increasing the perceived general health and lower blood sugar. While the perceived negative impact include sleeplessness and fatigue. Examples of participant statements as follows:

"... it was when my husband get worst six hundred and fifty (blood sugar level) ... he drank "mlandhing jowo" once a day for a week, than become ... three hundred, and than a month after ... its about two hundred and fiveteen, after that his body was already fit ... we have ever gifted herbs by some Dukun, but my husband got malaises, his condition become down, so i put it off "(P5)

" ... (after drink "sambung nyowo") my body was fitter but i cant sleep, so i stop it ... " (P1)

DISCUSSION

Participants in this study perceived CAM both as complementary or alternative to diabetes conventional medicine. Lui, Dower, Donald, Coll (2012) study found that people with diabetes in Australia use CAM as a supplement rather than a replacement of biomedicine regimen. Study in Lebanon also found that diabetes patient who use CAM as complementary is more than alternative regiment (79,1:20,9 %) (Naja et al. 2014). Utilization of CAM as a supplement that is used in conjunction with medical drug therapy should be done cautiously because its potential adverse effect especially hypoglycemia (Birdee & Yeh, 2010).

Participant stated that medical drugs and herbs is only enhancer, what primarily must be considered in the treatment of diabetes is restricted diet. This finding consistent with the study of Niswah, Chinnawong, Manasurakarn, (2014) which found that diabetes patient still perform other regiment beside consume herbs consist of diet 40,3 % and exercise 29,9 %. Non-pharmacological treatment includes lifestyle changes in diet, increase physical activity and education for patients is the first priority in the management of patients with diabetes before pharmacologic therapy, Oral hypoglycemic drugs is recommended for people with diabetes who can not control their blood sugar with non-pharmacological management (Yunir and Soebardi in Sudoyo, et al., 2006; Kartini, 2009).

Reasons of CAM use among participants in this study were lower cost, practical, and less or even no side effects, and more effective result compared to medical drugs. This findings is congruent with several studies which found the same reasons or beliefs of CAM use among diabetes patient (Ching, Zakaria, Paimin, Jalalian, 2013; Chang, Wallis, Tiralongo, 2010; Naja et al. 2014; Niswah, Chinnawong, Manasurakarn, (2014). The average cost of the health of people with diabetes in the US was 2.3-fold compared to people without diabetes (NIDDK, 2011). While in Indonesia the average of total treatment cost per patient is Rp 208 500 (\pm US \$ 16) per month with largest funding allocation to cost of drug (59.5%)

and complications management (31%) (Andayani, 2006). One of participants stated that her traditional healer didn't specify the cost for treatment, it's depend on her amount of money, some times she just only pay about Rp 40.000 (\pm US \$ 3) per visit, it's less than cost for a GP visit. Also most of herbs materials for CAM is available around home environment so CAM for participants is more cost effective and practical.

Participants considers medical drug therapy for diabetes have side effects that can have a negative impact, while CAM i.e herbs have less or even no side effects. Adverse effects of oral hypoglycemic drugs include hypoglycemia, nausea or decreased appetite, sometimes resulting in legs edema, as well as frequent flatulence (Kartini, 2009). According to Ardiyanto (2014) consumption of potent, herbs or other natural materials will cause a reaction that includes a variety of *healing crisis, aggravation, and amelioration*, so it's still need consideration by the patient.

All of participants use herbs in their regimen and only one who use animal. This finding is congruent with other studies which found that herbs is the most common CAM used by diabetic patient (Ching, Zakaria, Paimin, Jalalian, 2013; Niswah, Chinnawong, Manasurakarn, (2014); Chang, Wallis, Tiralongo, 2010; Naja et al. 2014). Extract of bitter lowering blood glucose levels in type 1 diabetic rats potently with the mechanism of antioxidant activity of flavonoids active compounds which can prevent Langerhans b cell of the pancreas damage and complications due to diabetes. Extract of bitter leaf and andrografolid active compound also potently lowers blood glucose levels in insulin-resistant diabetes mellitus type mice through increasing glucose carrier protein in the network (GLUT-4) and reduce levels of LDL lipid components and triglycerides in the blood that can lead to insulin-resistant conditions. Another mechanism is through inhibition of the enzyme alpha-amylase and alpha-glucosidase which plays a role in glucose absorption in the gastrointestinal tract (Ardiyanto, 2014). Wide studies of the effectivity and safety of the use of herbs among diabetes patient is inconsistent (Medagama & Bandara, 2014), so it's need further conclusive study. Other CAMs used or practiced by the participants in the study were pray, diet supplements and massage. The use of pray among participants in this study is consistent with other studies that people with diabetes using multiple tools and practices as religious or spiritual coping with the disease, by prayer, meditation, talking to God, as well as reading the scriptures (Niswah, Chinnawong, Manasurakarn, (2014); Daaleman, et al. 2001; Samuel-Hodge, et al., 2000; in Lager, 2006). Spiritual welfare lowering diseases related uncertainty and issues related to the lives of people with diabetes and mediate relationship between uncertainty with psychosocial adjustment (Landis, 1996; in Lager 2006). King et al, 2002; in Lager (2006) also found that the presence of religious activities become predictor of low C-reactive protein (CRP) level, people with diabetes who do not follow religious activities in churches or places of religious activity were found to have higher CRP levels. Based on this positive impact of spiritual practices towards improving the welfare of people with diabetes spirituality need fulfilment among people with diabetes should be encouraged.

Participants receive information about CAM from relatives, fellow sufferers of or non-diabetic patients, neighbors and traditional healer. This finding

is congruent with studies on source of information about CAM for diabetes patient (Niswah, Chinnawong, Manasurakarn, (2014); Chang, Wallis, Tiralongo, 2010), except there were no participants in this study who receive information from health professionals. Participants arrange the use of herbs by them self and family, they did not consult it with health professionals because they doubtfully if they were competent and would be open to discuss. This is similar with other study of Naja et al. (2014) that found 121 (93,1 %) of 130 diabetes patients in Lebanon didnt consult with a doctor before using CAMs. This arrangement patter of CAM use may increase self management but on health professional source of information may lead to lack of recommended evidence based CAMs for diabetes patient. Helping patient to make decision about the most safe and effective CAMs, despite the unclear and growing research of it should be done by physician (Birdee & Yeh, 2010), and other health professionals.

Material for CAMs i.e herbs used or made by the participants was obtained from their family given, take it directly from plants around home, as well as by buying. This was similar with Niswah, Chinnawong, Manasurakarn, (2014) finding study that sources of CAM product were came from environment around, markets, friends and also family member. Participants in this study cultivate herbs for therapy by boiling, cooking as vegetables, and brewed. They consume herbs by drinking or swelling directly once or twice a day regularly or when complaining symptoms and stop when they bored, the body was fit, or they receive information about new herbs that they were interested to try. Participant used herbs interchangeably, when they gone bored or wish to try new herb than they just change the herb. This finding congruent with the study of Naja et al. (2014) which found that 63,8 % diabetes patient is trying CAM for the sake of experiment. This behaviour may lead to confusing conclusion about which herb effective and safe for diabetes patient.

CAM used impact felt by the participants both positive and negative. Positive impacts include increasing the perceived general health and lower blood sugar. While the perceived negative impact include sleeplessness and fatigue. Participants experience good subjective impact with least side effect by consuming herbs for managing diabetes. This findings is similar with those done by Naja et al. (2014) who found that 47,2 % have feeling of body strengthening and only 10,2 % of diabetes patient who report having side effect after CAM used including feeling of rise of several symptoms (4,7%).

CONCLUSIONS

Diabetes patient perceived CAM as both complementary or altenative to medical drugs and other diabetes regiment. Reasons of CAM uses were low cost, practical, and effective therapeutic impact. CAMs used by diabetes patient were herbs, animal, supplement diet, pray, and massage. Sources of information of CAM were families, friends, and traditional healer. Herbs ingredients were boiled, applied with hot water, made like a coffee, or cooked like salads/ vedgetables. Impact of complementary therapy used faced by diabetic patient were both beneficial and detrimental. Diabetes patient should be open and discuss the use of CAM to health professionals to be observed the positive or negative impact. Further research on the phenomenon of the use of complementary therapies in the

treatment regimens of diabetes needs to be done especially in relation to the effective CAM for the treatment of diabetes and the use of CAM for the treatment of diabetes from the perspective of complementary therapy practitioners and health professionals.

REFERENCES

- Andayani, TM 2006. Cost Analysis of Diabetes Mellitus Treatment in Hospital Dr. Sardjito. Indonesian pharmaceutical magazines, 17 (3), 130-135, 2006
- Anderson, ET, Mc Farlane, J., 2004 *Community as Partner, Theory and Practice in Nursing* 4th ed. Philadelphia: Lippincott William & Wilkins
- Ardianto, D (2014) Herbs Therapy for Diabetes. National Seminar : The Prospect of Herbs Therapy For Diabetes; November 2nd 2014
- Bhalerao, MS, Bolshete, PM, Swar, BD, Bangera, TA, Kolhe, VR, Tambe, MJ, Wade, MP, Bhowate, SD, Sonje, UB, Gogtay, NJ, Thatte, UM, 2013. *Use of and Satisfaction with Complementary and Alternative Medicine in Four Chronic Disease: A Cross-sectional Study from India. The National Medical Journal of India.* Vol. 26, No. 2, 2013.
- Birdee, GS; Yeh, G (2010) Complementary and Alternative Medicine Therapies for Diabetes : A Clinical Review. Journal of Clinical Diabetes Volume 28 No 4
- Central Bureau of Statistic (CBS), 2012 Health Indicators 1995 to 2012, http://www.bps.go.id/tab_sub/view.php?kat=1&tabel=1&daftar=1&id_subyek=30¬ab=33 2012
- Chang, HA; Wallis, M; Tiralongo, E (2011) Use of Complementary and Alternative Medicine Among People wuth Type 2 Diabetes in Taiwan: A Cross-Sectional Survey. Jornal of Evidence-Based Complementary and Alternative Medicine
- Ching, SM; Zakaria, ZA; Paimin, F; Jalalian, M (2013) Complementary Alternative Medicine Use Among Patients with Type 2 Diabetes Mellitus in THe Primary Care Setting : a Cross Sectional Study in Malaysia. BMC Complementary and Alternative Medicine 13:148
- Isworo, A., 2008. Relationship of Depression and Family Support with Blood Sugar Level In Type 2 Diabetes Mellitus Patients in hospitals of Sragen. Theses: FIK UI
- Kariadi, SHKS., 2009. Diabetes? No Need To Worry !!. Complete guide to diabetes for patient, family, and Medical Professionals. Bandung: Mizan Media Library.
- Lui, C; Dower, J; Donald, M; Coll, JR (2012) Patterns and Determinants of Complementary and Alternative Medicine Practitioner Use among Adults with Diabetes in Queensland, Australia. Evidence-Based Complementary and Alternative Medicine.

- Medagama, AB; Bandara, R (2014) The Use of Complementary and Alternative Medicine (CAMs) in The Treatment of Diabetes Mellitus: Is Continued Use Safe and Effective?. www.nutritionj.com/content/13/1/102
- Naja, F; Mousa, D; Alameddin, M; Shoaib, H; Itani, L; Mourad, Y (2014) Prevalence and Correlates of Complementary and Alternative Medicine Use Among Diabetic Patients in Beirut, Lebanon: A Cross-sectional Study. *BMC Complementary and Alternative Medicine*. 14:185
- National Institute of Diabetes and Digestive and Kidney Disease. (NIDDK), 2011 National Diabetes Statistics. <http://diabetes.niddk.nih.gov/dm/pubs/statistics/>
- NCCAM., 2013. *Diabetes and Dietary Supplements* <http://nccam.nih.gov/health/diabetes/supplements>
- Niswah, Chinnawong, T; Manasurakarn, J (2014) Complementary Therapies used Among Adult Patients with Type 2 Diabetes Mellitus in Aceh, Indonesia. *Nurse Media Journal of Nursing* Vol 4 No 1
- Research and Development Body of Indonesian Ministry of Health., 2008. Basic Health Research Report 2007. MOH: Jakarta
- Semarang City Health Office., 2013. Health Profile of Semarang. Semarang: Semarang City Health Office
- Sudoyo et al., 2006. Textbooks internal medicine, vol III IV edition. Jakarta: Central Publishing Department of Medicine Faculty of Medicine UI
- Taylor, MR, 2009. *Yoga and Diabetes Self Management: The Mind-Body Connection*. School of Nursing: University of Washington. Dissertation
- WHO., 2011. Prevalence of Diabetes Mellitus. http://www.who.int/diabetes/facts/world_figures/en/index5.html
- Yen, L; Jowsey, T; McRae, IS (2013) Consultation with Complementary and Alternative Medicine Practitioners by Older Australian: Result from National Survey. *BMC Complementary and Alternative Medicine*. 13:73

EFFECT OF OYSTER MUSHROOM (*PLEUROTUS OSTREATUS*) EXTRACT ON WOUND HEALING PROCESS THROUGH TGF- β 1 LEVEL AND WOUND CONTRACTION IN DIABETIC RATS MODEL

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ABSTRACT

Background: Oyster mushroom (OM) has a high content of beta glucan. Based on in vitro study, beta glucan increase the maturation of dendritic cells and activates macrophages which secretes TGF- β 1. TGF- β 1 is a growth factor in wound healing mechanism and tissue repair. However diabetic wound there is a decrease in TGF- β 1.

Objective: the objective of this study is to determine that OM extract increase of level TGF- β 1 and wound contraction.

Methods: Thirty males of wistar rats weighing 180-250g were divided into six group. Rats were created wound on the back. The groups were control groups [consist of K1: negative control, K2: positive control (STZ 45mg/kgBW i.p.+NS), K3: (STZ+NS+Metformin 63mg/kgBW)] and the treatment groups [consist of P1: (STZ+Oral OM 200mg/kgBW+NS), P2: (STZ+Topical OM 20%), and P3: (STZ+Oral OM 200mg/kgBW+Topical OM 20%)]. The treatment were given for 14 days. At the end of study, TGF- β 1 was evaluated by ELISA while wound contraction was determined by AutoCad 2010. Statistical analyzes was used one way ANOVA and post hoc (tukey) test.

Results: The Results showed that TGF- β 1 level in K1: 214.46 ± 62.37 , K2: 107.75 ± 35.16 , K3: 96.5 ± 65.97 , P1: 101.5 ± 27.52 , P2: 149.12 ± 17.41 , P3: 197.38 ± 59.4 pg/ml. Wound contraction yielded in K1: 86.94 ± 7.72 , K2: 72.31 ± 4.83 , K3: 69.13 ± 15.6 , P1: 90.29 ± 5.97 , P2: 89.59 ± 3.83 , P3: 86.49 ± 6.74 %. Beta glucan content on oyster mushroom influenced TGF- β 1 level in the treatment group (P1, P2, P3) which had diabetes. Wound contraction showed better changes in the treatment group than control group (K2 and NK3).

Conclusion: In conclusion, oyster mushroom can accelerate wound healing in diabetic rats by influence TGF- β 1 and wound contraction.

Keywords: Oyster Mushroom (*Pleurotus Ostreatus*), beta glucan, Wound Healing, Diabetes, TGF- β 1, Wound Contraction

BACKGROUND

The Process of diabetic wound healing increase matrix metalloproteinases (MMPs), number of neutrophils, macrophages, and decrease levels of Transforming Growth Factor $\beta 1$ (TGF- $\beta 1$) (Sen & Roy, 2013; McLennan, 2006; Roohi et al., 2014). Transforming growth factor- $\beta 1$ (TGF- $\beta 1$) is a growth factor in wound healing mechanism and tissue repair by stimulating angiogenesis, granulation tissue, re-epithelialization and stimulation protomyofibroblas become myofibroblas differentiation. This situation can affect wound contraction. TGF- $\beta 1$ decrease causes elongation wound healing and increase tissue breakdown in diabetic wound (Faler, Macsata & Plummer, 2006; Ramirez et al, 2014).

Oyster mushroom (*Pleurotus ostreatus*) is a mushrooms that have a high content of beta glucan (Bobek and Galbavy 2001). However, oyster mushrooms has never been used clinically to accelerate diabetic wound healing. Based on in vitro study (Kikuchi, 2002) beta glucan can make dendritic cell maturation. Maturion dendritic cell can stimulate T cell to differentiate. In turn differentiate T cell can secrete cytokine profile that able to activate macrophages. Based on Celal *et al.* (2008) study, beta glucan will activate macrophages and migrate, then fibroblasts can proliferate. Furthermore, macrophages activation can secrete TGF- $\beta 1$ (Ramirez et al, 2014).

OBJECTIVE

The objective of this study is to determine that OM extract increase of level TGF- $\beta 1$ and wound contraction

METHOD

Study Design

This study was a true experimental laboratory, sample was divided into 3 group of control and 3 group of treatment. The first control group (K1) was a healthy rats that treated with NS, the second control group (K2) was diabetic rats that treated with NS and the third group (K3) was a diabetic rats that treated with NS and oral metformin 63mg/kgBW. While the first treatment group (P1) was a diabetic rats that treated with NS and Oral OM 200 mg/kgBW, the second group (P2) was a diabetic rats that treated with topical OM 20% and the third group (P3) was diabetic rats that treated with oral OM (200 mg/KgBW) and topical OM (20%). Wound treatment gave to the rats for 14 days. In the days 14, the rats dissected and the skin tissue will took for TGF- $\beta 1$ level and wound contraction examination. This study already had ethical clearance from Health Research Ethic Committe, Faculty of Medicine, Brawijaya University (No. 217/EC/KEPK-S1/03/2015).

Sample

This study used 30 males of rats (*Rattus norvegicus*) wistar strain. They were aged more than 3 months and weight 180-250 grams. Rats obtained from Laboratory of Physiology and moleculer, Faculty of Medicine Brawijaya University.

Diabetic Wound Procedure

The rats were fasted for 12 hours before it is induced by single dose of Streptozotocin (STZ) 45 mg/kgBW i.p. in solvent of citrate buffer (0.1M, pH 4.5). Glucose 5 % gave to the rats for 24 hours after the induction of STZ, this procedure was used to avoid hypoglycemia that caused dying of the rats. The seventh days after the induction of STZ, blood glucose of the rats was measured through the tail vein of rats by using glucometer. If the blood glucose was above 250 mg/dL, it was claimed as diabetic rats (Mekala *et al.*, 2014; Nagmoti, 2015). After the measuring of the blood glucose, rats were anaesthetized by ketamin 25 mg/kgBW i.p. and then the back hair of rats were shaved and disinfected by alcohol 70%. Afterward, on the back of rats were made one excision wound (1.5 cm x 1.5 cm) by using a scalpel (Li *et al.*, 2011).

Ethanol Extraction of Oyster Mushroom

The procedure adapted from pharmacology laboratory, Faculty of Medicine, Brawijaya University. An oyster mushroom was cut into pieces and dried until there was no more water inside the oyster mushroom. Furthermore, the dried oyster mushroom was mashed and soaked in 96% of ethanol, then mixed for 30 minutes and leave it for 24 hours until it was precipitate. The upper liquid took and filtered by using a filter paper and continued with evaporation process. Furthermore, wait until ethanol mixed in oyster mushroom stop dripping on flask container to obtain oyster mushroom extract. Then, oyster mushroom extract stored at freezer.

Diabetic Wound Care

Diabetic wound treatment was given once a day for 14 days (Lodhi, 2013). Topical treatment was using a sterile technique with a closed gauze to prevent wound infection. Oral technique was using a sonde. Topical extract of oyster mushroom was using a concentration of 20 % while the oral administration was using a dose 200 mg/kgBW (Jayakumar *et al.*, 2006).

Measurement of Wound Contraction

Diabetic wound was documented using a digital camera 16 MP. The unhealing wound area after 14 days treatment was measured using AutoCAD 2010. Wound contraction was measured using a formula: the percentage of wound contraction = [(initial wound area-non-healing wound area)/initial wound area]x 100% (Li *et al.*, 2011).

Level Measurement of TGF- β 1

Skin tissue was taken at the end of the study, and then skin tissue was cut into small pieces to do homogenized using ice-cold PBS (0.01M, pH 7.4). After the skin tissue homogenous, the skin tissue was centrifuged 5000 rpm for 5 minutes and the supernatant was taken for ELISA examination (TGF- β 1 ELISA kit Elabscience E-EL-M0051). Furthermore, Optical density (OD) of TGF- β 1 was measured using a spectrophotometer (wavelength of 450 nm \pm 2 nm).

Statistical Analysis

Test performed statistically on the level of TGF- β 1 and wound contraction in control group and treatment group. Steps of comparative and correlative hypothesis were : normality test, homogeneity of variance, One-way ANOVA, post hoc test (tukey) with significance level 0.05 ($p < 0.05$) and 95% confidence level ($\alpha = 0.05$). This test was using SPSS 16.0.

RESULTS

Body Weight and Blood Glucose in Rats

Results from Mean, rats had weigh 213.03 ± 15.89 g (with range 207.09-218.96 g) in control group and treatment group. Rats had fasting blood glucose (pre-induction STZ) at 121.73 ± 6.164 mg/dl (with range 119.43-124.03 mg/dl). Rats (K2, K3, P1, P2, P3) had fasting blood glucose (post-induction STZ) at 445.81 ± 92.21 mg/dl (with range 403.83-487.78 mg/dl). From these result, after rats were induced STZ, Therefore rats were diagnosed diabetes mellitus model with fasting blood glucose > 250 mg/dl. Results from Shapiro-Wilk, normality test showed normal distribution on body weight, blood glucose pre-induction and post-induction ($p > 0.05$).

Levels of TGF- β 1

Normality and homogeneity test showed normal and homogeneous data ($p > 0.05$) on TGF- β 1 level. Result from One Way ANOVA test, TGF- β 1 level showed the value of $p = 0.010$ (Table 1). The results of post hoc test (Tukey) was found significantly difference between K1 to K3 and P1 groups. P1 group was found significantly decrease ($p < 0.05$) in TGF- β 1 levels (101.5 ± 27.52 pg / ml). In addition, K3 group was found significantly decrease ($p < 0.05$) in TGF- β 1 levels (96.5 ± 65.97 pg / ml). Mean showed that TGF- β 1 levels increased significantly ($p < 0.05$) in the K1 group (214.46 ± 62.37 pg / ml).

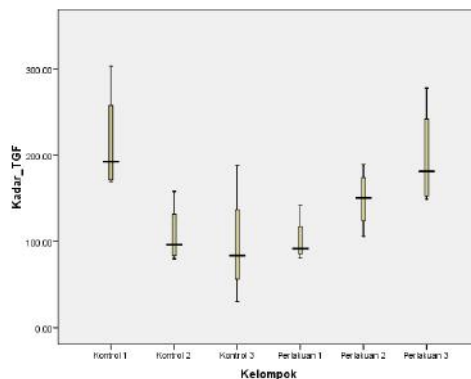


Figure 1. Mean chart of TGF- β 1 level

| Group | Mean \pm SD (pg/ml) | Significant |
|---|-------------------------|-------------|
| Tabel 1. Mean of TGF- β 1 levels | | |
| K1 | 214.46 ± 62.37^b | 0,010 |
| K2 | 107.75 ± 35.16^{ab} | |
| K3 | 96.5 ± 65.97^a | |
| P1 | 101.5 ± 27.52^a | |
| P2 | 149.12 ± 17.41^{ab} | |
| P3 | 197.38 ± 59.4^{ab} | |

Wound Contraction

Normality and homogeneity test showed normal and homogeneous data ($p > 0.05$) at wound contraction. Result from One Way ANOVA test, wound contraction showed the value of $p = 0.011$ (Table 2). The results of post hoc test (Tukey) test was found significantly difference between K3 to P2 and P1 groups. Wound contraction increased significantly which had the highest percentage of wound contraction in P1 group ($90.29 \pm 5.97\%$). In addition, P2 group increased

significantly ($p < 0.05$) in wound contraction with percentage $89.59 \pm 3.83\%$. The lowest percentage found in K3 group ($69.13 \pm 15.6\%$)

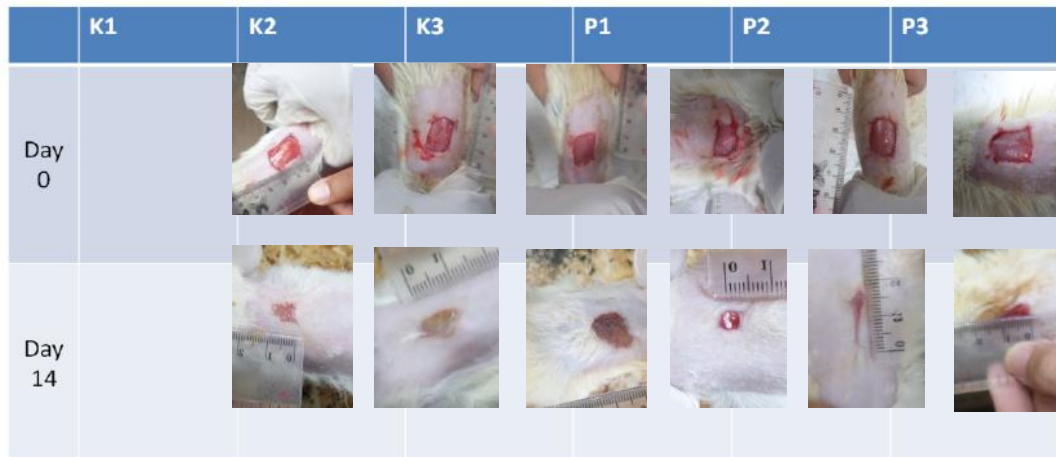


Figure 2. Wound area at days 0 and days 14

Table 2. Mean of Wound Contraction

| Group | Mean \pm SD (%) | Significant |
|-------|-----------------------|-------------|
| K1 | 86.94 ± 7.72^{ab} | 0,011 |
| K2 | 72.31 ± 4.83^{ab} | |
| K3 | 69.13 ± 15.6^a | |
| P1 | 90.29 ± 5.97^b | |
| P2 | 89.59 ± 3.83^b | |
| P3 | 86.49 ± 6.74^{ab} | |

DISCUSSION

Normally, wound healing process are acute phase (hemostasis, inflammation), proliferative phase (granulation, epithelialization), and the remodeling phase (Sen & Roy, 2013; Bologna et al., 2012). Hemostasis phase, platelets will secrete blood clotting factors such as thrombin. Thrombin stimulates by release pro-inflammatory and inflammatory cytokines. Then inflammatory phase mediated by mast cells, neutrophils, and macrophages (Marston, 2014; Bologna, 2012). Afterwards, a process of proliferation begin which the growth factors such as PDGF, TGF- β , VEGF, KGF and EGF secreted by several cell types, mainly by macrophages that have functions as fibroblast proliferation, angiogenesis to support the initiate tissue regeneration and growth of epithelial. remodeling phase, wound healing process is involving the role of fibroblast into myofibroblast then become stronger tissue and the one of growth factor is TGF- β 1. (Marston, 2014; Sen & Roy, 2013). However, diabetic wound has disruption in the inflammatory phase by increasing IL-1, IL-6, TNF- α thus rising inflammatory cytokines can cause reduced wound healing process (Leong, 2013). These cytokines released by the lymphocytes and macrophages which were activated, will results in the recruitment and activation of fibroblasts and epithelial cells in

the injured area. In addition, neutrophil as a signal of chemoattractant migrate to the injured area to release the matrix metalloproteinases (MMPs). MMPs are responsible for clean up the danger of local tissue injury by breaking down collagen (MMP-1 and -8), gelatin (MMP - 2 and -9), and elastin (elastase). MMPs activity is tightly controll by tissue inhibitors of MMPs (TIMPs), which is produce by macrophages (Marston, 2014) (Bologna et al., 2012). But on the diabetes condition, there is increasing of production MMPs (MMP-1, MMP-2, MMP-8, and MMP-9) and decreasing production of TIMPs, so TIMPs are not able to inhibit the activity of MMPs, which in turn yielded to the elongation of the inflammatory phase (Leong , 2013). The elongation phase inflammation on diabetic wound characterized by an increase cells (macrophages, B cells, and plasma cells), but also, diabetic wound decrease T cells in the wound area (Mirastschijski, 2013). In addition, there is interference on the proliferative phase with decreasing growth factor which PDGF, FGF, TGF- β , VEGF and EGF (Brownlee, 2005).

In control group, the treatment gave NS and Metformin. Normal saline has used in clinical practice to treat open wounds (Lim et al., 2000). Metformin has used in controlling blood glucose in diabetics. Metformin has an effect in activating AMP-activated protein kinase (AMPK) (Lu et al., 2015). AMPK is an energy-sensing that will active when our bodies experiencing lack of energy, so that the signal will stimulate glucose utilization in skeletal muscle, the oxidation of fatty acids in adipose tissue and the liver reduce the glucose production. AMPK can improve insulin sensitivity so it can reduce the levels of blood glucose (Coughlan et al., 2014). However, activation of AMPK is able to suppress the effects of TGF- β 1 (Lu et al., 2015).

Treatment group were administered oyster mushroom (OM) which had a high content of beta glucan. Beta glucan can boost the immune system in the body and improve wound healing (Sandvik, 2008; Mowsumi & Chaudhury, 2010). Based on invitro study, beta glucan increased the maturation of dendritic cell (Kikuchi, 2002). Dendritic cell maturation cause by beta glucan's molecule bind Dectin-1 and TLR receptors in dendritic cell imature (Chan et al, 2009). Mature Dendritic Cell can stimulate T cells to differentiated into Th1 and Th2 cells. There are affecting the microenvironment of the wound by secreting cytokine profile. Th1 cells secrete IFN- γ whereas Th2 cells secrete IL-4 and IL-13 (Bologna et al., 2012) (Kumar et al., 2009). According to Celal et al. (2008), beta glucan can causes macrophages become active and migration. Macrophage activation process was activated by Th1 and Th2 cytokine profile, so that macrophages can obtain different activation state, that are "classically activated" (M1) and " alternatively active " macrophages (M2) (Bologna et al., 2012). M1 macrophage was activated by IFN- γ . After activation, macrophage had pro-inflammatory activities such as the production of IL-1, NO, and eradication of invading microorganisms (Bologna et al., 2012). Whereas, M2 macrophage was activated by IL-4 and IL-13. This macrophage has anti-inflammatory function, angiogenesis, tissue remodeling and especially increase the production of growth factors such as TGF- β (Transforming growth factor- β), FGF (fibroblast growth factor) and PDGF (platelet-derived growth factor), which contribute to proliferation of fibroblasts

(Kumar et al, 2009) (Bologna et al., 2012). In proliferation phase, fibroblasts require growth factors to proliferate, such as TGF- β (Leong, 2013).

Physiologically, TGF- β regulates the function of keratinocytes, fibroblasts, endothelial cells, monocytes and other cell types. TGF- β binds to TGF- β RII and TGF- β RI receptor for phosphorylation. After phosphorylation, R-Smad bind co-Smad to have reaction in outside and inside nucleus cell. Then TGF- β 1 releases from nucleus cell through m-RNA transcription process. TGF- β 1 is secreted by keratinocytes, monocytes, fibroblasts and macrophages. TGF- β 1 will stimulate angiogenesis through increasing the expression of VEGF (Vascular endothelial Growth Factor), keratinocyte migration for re-epithelialization, protomyofibroblasts become differentiated myofibroblast to produce wound contraction (Ramirez et al, 2014; Nam et al., 2010). Therefore, oyster mushroom able to accelerate the wound healing process through the activation of macrophages by stimulate TGF- β 1 and wound contraction. This situation is approved. This research, that are significant difference between control and treatment groups. The treatment groups (P1, P2, P3) were able to accelerate wound closure than K2 and K3 groups.

Based on Celal et al (2008) research, that systemic and topical administration of beta glucan can improve wound healing, the research results mentioned that the systemic administration of beta-glucan more effective than topical. It is similar to our result, that P1 group which were given oral dose of oyster mushroom, accelerated diabetic wound healing and reached the end of the wound healing process.

Theoretically, the mechanism when the wound healing reached the end of the process. Then TGF- β 1 will help deposition of extracellular matrix. Fibroblasts and keratinocytes will communicate with each other through the TGF- β 1 to reduce regulation of the wound healing process, to differentiation, and ended the process (Hebda and Sandulache, 2003). This states is prevents scar/keloid in skin, since the increase TGF- β 1 on wound healing may develop increase scar (Yamano et al., 2012).

CONCLUSION

Ethanol extraction of oyster mushroom is influence the levels of TGF- β 1 in the treatment group who had diabetes. Wound contraction showed that treatment group better than control group with diabetes. The wound contraction on P1 group were higher than other groups, but the levels of TGF- β 1 decreases because the wound healing process has reached the end that reduce the incidence of scar / keloid. In conclusion that the oyster mushroom extract orally accelerate the diabetic wound healing process than topical or oral-topical.

It is suggested for further research, to explore diabetic wounds to the remodeling phase for strengthen the results of this study. It is a deemed to find out therapeutic window. For research development, it is necessary to elaborate the side effect of oyster mushroom extract (*Pleurotus ostreatus*) on the type of diabetes wound with infections complications.

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REFERENCES

- Bobek dan Galbavy. 2001. Effect of pleuran (beta-glucan from *Pleurotus ostreatus*) on the antioxidant status of the organism and on dimethylhydrazine-induced precancerous lesions in rat colon. *J biomedical science*, 58:3, 164.
- Bolognia, J. L., Jorizzo, J. L., Schaffer, J.V. 2012. Biology of Wound Healing. In S. A. Eming (Ed.), *Dermatology* (3rd edition ed., pp. 2313-2325). China: Elsevier.
- Brownlee, M. (2005). Banting Lecture 2004: The Patobiology of Diabetic Complication, A Unifying Mechanism. *Diabetes*, 54, 1615-1625
- Celal, C. *et al.* 2008. The Effects of Topical and Systemic Beta Glucan Administration on Wound Healing Impaired by Corticosteroids. *Wounds*, 20:12.
- Chan, Godfrey C.F. Chan, W.K. Sze, D.M.Y. 2009. The Effects of β -Glucan on Human Immune and Cancer Cells. *Journal of hematology & Oncology*. 2:25
- Coughlan, K. A. 2014. AMPK activation: a therapeutic target for type 2 diabetes?. *Dovepress Journal*, 7, 241-253.
- Faler, B.J., Macsata, R.A., Plummer, D. 2006. Focus on basic science : Transforming growth factor- β and wound healing. *Sage Journals*. 18(1): 55-62.
- Frykberg, R. G. 2006. Diabetic Foot Disorders: Clinical Practice Guideline (2006 revision). *The Journal of Foot & Ankle Surgery*, 45(5), 1-65.
- Hebda dan Sandulache. 2003. "The Biochemistry of Epidermal Healing" in David T. Rovee (Ed). *The Epidermis in Wound Healing*. Boca Raton, FL : CRC Press
- Jayakumar, T., Ramesh, E., Geraldine, P. (2006). Antioxidant activity of the oyster mushroom, *Pleurotus ostreatus*, on CCl₄-induced liver injury in rats. *Journal Food and Chemical Toxicology*. 44, 1989-1996
- Kikuchi T, Ohno N, Ohno T. 2002. Maturation of dendritic cells induced by *Candida* beta-D-glucan. *Int Immunopharmacol*. 2, 1503-1508
- Kumar, V., Abbas, A.K., Frusto, N., Aster, J. 2009. *Robbins and Cotran Pathologic Basis of disease, Professional edition, 8th edition*. Saunders
- Leong, M., Phillips, L.G. 2013. Wound Care. In *Surgical Basic Principles* (pp. 151-177). Philadelphia: Elsevier Saunders.
- Li, Kun *et al.* 2011. Tannin Extract Form Imature Fruits of *Terminalia Chebula* Fructuz Retz. Promote Cutaneous Wound Healing In Ratz. *BMC Complementary and Alternative Medicine*.11: 86-95
- Lim, J.K. *et al.* 2000. Normal Saline Wound Dressing-is It Really Normal. *British Journal of Plastic Surgery*.53, 42-45
- Lu, J., Shi, J., Li, J. *et al.* 2015. Activation of AMPK by metformin inhibits TGF- β -induced collagen production in mouse renal fibroblasts. *Life Sciences*, 127, 59-65.

- Lodhi, S., Singhay, A.K. 2013. Wound healing effect of flavonoid rich fraction and luteolin isolated from *Martynia annua* Linn. on streptozotocin induced diabetic rats. *Asian Pacific Journal of Tropical Medicine*. 253-259
- Marston, W. A. (2014). Wound Care. In J. L. Cronenwett & K. W. Johnston (Ed.), *Rutherford's Vascular Surgery* (8th edition ed., pp. 1221-1240). Philadelphia: Elsevier Saunders.
- McLennan, S., Yue, DK., & Twigg, SM. (2006). Molecular aspect of wound healing in diabetes. *Primary Intention*, 14(1), 8-13.
- Mekala, S., Kumar, M., Das, L. *et al.* 2014. Evaluation of Wound Healing Activity of Ethanolic Extract of *Lantana Camara* in Streptozotocin Induced Diabetic Rats. *International Journal of Pharmacy and Pharmaceutical Sciences*, 6(1), 631-633.
- Mirastschijski, U., Jokuszies, A., Vogt, P.M. (2013). Skin Wound Healing: Repair Biology, Wound, and Scar Treatment. In P. C. Neligan (Ed.), *Plastic Surgery* (3rd edition ed., pp. 240-266): Elsevier Saunders.
- Mowsumi & Chaudhury. 2010. Oyster Mushroom: Biochemical and Medicinal Prospects. *J Medical Biochemistry*, 3(1), 27.
- Nagmoti, D.M., Kothvade, P.J., Bulani, V.D., *et al.* 2015. Antidiabetic and antihyperlipidemic activity of *Pithecellobium dulce* (Roxb.) Benth seeds extract in streptozotocin-induced diabetic rats. *European Journal of Integrative Medicine*. 1-30
- Nam, E. *et al.* 2010. TGF- β 1 Induces mouse dendritic cells to express VEGF and its receptor (Flt-1) under hypoxic conditions. *J Experimental & Molecular Medicine*. 42: 606-613
- Ramirez, H., Patel, S.B., Pastar, I. 2014. The Role of TGF β Signaling in Wound Epithelialization. *Advance in wound care*, 3(7): 482-491.
- Roohi, A., Tabrizi, M., Abbassi, F., Ataie-Javari, A., Nikbin, A., *et al.* (2014). Serum IL-17, IL-23, and TGF- Levels in Type 1 and Type 2 Diabetic Patient and Age-Matched Health Controls. *BioMed Research International*, 2014, 1-7.
- Sandvik, A. 2008. *A study on immunomodulating beta-glucan: Effects of oral application on inflammation, tissue injury, and the mucosal immune system in experimental animals*. University of Oslo, Norway.
- Sen, C. K. and Roy, S. 2013. Wound Healing. In P. C. Neligan (Ed.), *Plastic Surgery* (3rd edition ed., pp. 240-266): Elsevier Saunders.
- Yamano, S., Kuo, W.P., Sukotjo, C. 2013. Downregulated gene expression of TGF- β s in diabetic oral wound healing. *Journal of Cranio-Maxillo-Facial Surgery*, 41, e42-e48.

THE EFFECTIVENES OF STAR FRUIT (AVERRHOA CARAMBOLA) TO BLOOD PRESSURE OF HYPERTENSION PATIENT IN KANAGARIAN PULUIKPULUIK, PESISIR SELATAN DISTRICT

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ABSTRACT

Background: Hypertension is one of cardiovascular disease that become primary in health problem in the world. In controlling hypertension can utilize nonpharmacological treatment with herbal (complementary therapy) by using fruit. Sweet star fruit is a fruit that is quite often found and preferred by community in Kanagarian Puluik-Puluik, Kab.Pesisir Selatan, an isolated region in Asam Kumbang Health Centre, but never been used and proved as a therapy.

Objective: Purpose of this study was to analyze the effectiveness of star fruit in decreasing blood pressure for patients with hypertension.

Methods: The design was pre experiment with the design One Group Pre-Post Test Design.

Results: The number of samples used by 40 respondents with purposive sampling technique in patients with hypertension. Star fruit therapy was given to consume for 7 days in with a frequency 2x a day, Data were taken by using a sheet of blood pressure observation.

Discussion: The results showed the Paired t Test value $\alpha = 0.05$ p value of 0.000 ($p < 0.05$) **Conclusion:** It can be concluded that there is the effect of sweet star fruit to drop in blood pressure. Giving sweet Carambola can be an alternative therapy in lowering blood pressure among the community.

Keywords: star fruit, blood pressure, hypertension

BACKGROUND

Having high blood pressure (hypertension) may put anyone at risk for heart disease and stroke, which are leading causes of death in the world wide. Patients with hypertension are increasing from year to year, 60 % of patients with hypertension end at the stroke (Marliani , 2007) . In West Sumatra, particularly Kabupaten Pesisir Selatan , hypertension included into the 5 most illnesses experienced by the community. (DKK, 2014).

American Heart Association (2014) said, if left untreated, high blood pressure can have damaging effects on your health. The primary way it causes harm is by increasing the workload of the heart and arteries, which causes damage to the circulatory system over time. High blood pressure can cause the heart to enlarge because it has to work harder to supply the blood the body needs. It also can contribute to a condition called atherosclerosis, in which the walls of the arteries become stiff and brittle as fatty deposits build up inside them. Untreated

high blood pressure can lead to coronary heart disease, heart failure, heart attack, stroke, kidney damage, angina (chest pain related to heart disease), peripheral artery disease, and other serious conditions

Generally, the treatment of hypertension can be pharmacological and non-pharmacological. Nonpharmacologic treatment in an alternative treatment can also be used as a complementary therapy is a therapy to accelerate healing (Widharto, 2007). Chaturvedi, (2009) said, the Dietary Approaches to Stop Hypertension (DASH), as alternative therapy, has suggested to stop hypertension by eating plan (high in fruits, vegetables, potassium, calcium, and magnesium; low in fat and salt). Rural communities typically use non-pharmacological treatment or herbal which is easily available and do not use a lot of costs.

Sweet star fruit (*Averrhoa Carambola* L), the five-angled star fruit, also known as carambola, is a waxy, yellow-green fruit that grew only in tropical area. According to Astawan, (2009), this fruit has a diuretic effect that can accelerate urination and may reduce the heart's workload. Diuretics have an antihypertensive effect by increasing the release of water and sodium. Potassium maintain stability through the body's electrolyte sodium potassium pump, reducing the amount of water and salt in the body and loosen the blood vessels so that the amount of salt in the blood vessels to dilate, this condition helps blood pressure became normal (Wirjowidagdo, 2002). Sweet star fruit is rich in fiber will bind fat and have an impact on not gaining weight, one risk factor for hypertension. Sweet star fruit also contains phosphorus and vitamin C can reduce tension or stress is a risk factor for hypertension (Murphy, 2009)

Kenagarian Puluik - puluik is located in isolated areas and regions of mountains with a population of 2806 inhabitants. This kanagarian belong to Asam Kumbang Health Centre service area. The Kenagarian Puluik - public nature the number of hypertensive patients is as much as 12 % of the population or 336 people in 2013 (Profile Coastal District Health Office South, 2013), which ranks second of top ten diseases in community. The last three months of hypertensive patients who regularly control blood pressure to pustu and polindes in Kenagarian Puluik - puluik is 49 people. The public has not much to know that sweet star fruit can lower blood pressure and easily obtained because the fruit is pretty much planted yard houses. By all phenomenon, we like to do the research about the effect of star fruit (*Averrhoa Carambola* L) given to blood pressure.

OBJECTIVE

General Purpose: Knowing the effect of star fruit to blood pressure of hypertension patient in Kenagarian Puluik-puluik, Pesisir Selatan District

Special Purpose:

- a. To identify the blood pressure of hypertension patient, before star fruit (*Averrhoa Carambola* L) given in Kenagarian Puluikpuluik Pesisir Selatan District
- b. To identify the blood pressure of hypertension patient, after star fruit (*Averrhoa Carambola* L) given in Kenagarian Puluikpuluik, Pesisir Selatan District

- c. Knowing the effect of star fruit (*Averrhoa Carambola L*) given to blood pressure of hypertension patient Kenagarian Puluik-puluik Pesisir Selatan District

METHODS

This study design was using pre experimental design by one -group pretest - posttest design. The population in this study were hypertensive patients who routinely controlling blood pressure to Asam Kumbang Health Centre and lived in Kenagarian Puluik – puluik. By last 3 months the record showed 49 people existed. Sample was using purposive sampling, and found 40 people to be sample. The Inclusion criteria were: respondents with systolic blood pressure above 140 mmHg, and/or diastolic blood pressure above 90 mmHg, under 60 years of age, do not have a history of gastritis, and approved as respondents by signing the informed consent.

Procedure in collecting data: 1) after getting permission from head of district and Asam Kumbang HC, researcher started getting data from medical record of HC, 2) came to the patients living (door to door) assuring the condition of patient and giving informed consent, 3) gave sweet star fruit for 7 days every morning and afternoon. 4) Checked patient's blood pressure on 8th day.

RESULTS

The data collecting was done for 8 days in Kanagraian Puluik-puluik, by getting 40 sampels, On the first day, researcher take patients' blood pressure, and then for the next 7 days, intervention was done by giving star fruit as much as 280 gr

Table 5.1. Overview Characteristics of Respondents by Age, Gender, and Economic Levels In Kenagarian Puluik - puluik 2014 (n = 40)

| NO | Characteristic | f | % |
|----|---------------------|----|------|
| 1. | Gender | | |
| | Man | 6 | 15,0 |
| | Woman | 34 | 85,0 |
| 2. | Age | | |
| | 31-40 | 2 | 5,0 |
| | 41-50 | 10 | 25,0 |
| | 51-60 | 28 | 70,0 |
| 2. | Working status | | |
| | Government employee | 2 | 5,0 |
| | Household | 30 | 75,0 |
| | Private | 3 | 7,5 |
| | Farm | 5 | 12,5 |
| 3. | Economic level | | |
| | Enough | 22 | 55,0 |
| | Less | 18 | 45,0 |

From the table showed the gender of respondents, more than half (85.0 %) female respondents, 28 respondent were greatest frequency (70.0 %) aged 51 -60 years. While more than half (75.0 %) , occupation is the mother households with economic level enough (55.0 %).

Table 2. Respondents Mean Blood Pressure Before and After Starfruit Sweet Given (Averrhoa Carambola L) in Kanagarian Puluik - Puluik 2014

| No | Blood pressure | Mean | Standard deviation | Min | Max | 95% CI | n |
|---------------|----------------|--------|--------------------|-----|-----|---------------|----|
| Before | | | | | | | |
| 1 | sistolic | 148.8 | 5.51 | 140 | 159 | 147.04-150.56 | 40 |
| 2 | diastolic | 93.65 | 3.30 | 90 | 100 | 92.59 – 94,70 | |
| After | | | | | | | |
| 1 | sistolic | 132,70 | 13,27 | 100 | 158 | 128,45-136,95 | 40 |
| 2 | diastolic | 89,52 | 4,12 | 80 | 95 | 88,20-90,84 | |

Table 2 showed that the average systolic blood pressure before being given a sweet star fruit was 148.8 mmHg with standard deviation of 5.51 and an average diastolic blood pressure was 93.65 mmHg with a standard deviation of 3.30 . The average systolic blood pressure and diastolic after being given a sweet star fruit was 132.7 mmHg with a standard deviation of 13.27 and 89.5 mmHg with a standard deviation of 4.12.

Normality test resulted in table Shapiro - Wilk (for sample < 50) normal distribution of data obtained in systolic blood pressure was pre test sig = 0.141 , and the post-test blood pressure that was sig = 0.064 . While on diastolic blood pressure variables pre test and post test distribution data was not normal with each sig 0.000 . From the test results of the above used paired t -test for normal distribution of data and data abnormal distribution Wilcoxon test was used .

Table 3. Analysis of Blood Pressure Changes Respondents Before and After Given Starfruit Sweet (Averrhoa Carambola) In Kanagarian Puluik - Puluik 2014

| No | Blood Pressure | Mean | Standard deviation | SE | p value | n |
|----|----------------|--------|--------------------|------|---------|----|
| 1 | Systolic | | | | | |
| | Before | 148,80 | 5,51 | 0,87 | 0,000 | |
| | After | 132,27 | 13,27 | 2,09 | | 40 |
| | Intervention | | | | | |
| 2 | Dyastolic | | | | | |
| | Before | 93,65 | 3,30 | 0,53 | 0,000 | |
| | After | 89,52 | 4,12 | 0,65 | | |
| | Intervention | | | | | |

Table 3 showed the average systolic blood pressure was 148.8 mmHg and after the sweet star fruit given systolic pressure was 132 mmHg . The average diastolic blood pressure before therapy was given fruit sweet star fruit was 93.65 mmHg and and after given starfruit sweet diastolic pressure was 89.5 mm Hg .

Tests using Paired t test with a level of confidence 95 % or the value of a = 0.05 was obtained p value = 0.000 for systolic blood pressure . Whereas

diastolic blood pressure values obtained Wilcoxon test was used p value = 0,000 with the value of z -4.794 . This means that there are significant significant provision sweet star fruit (Averrhoa Carambola) against drop in blood pressure in hypertensive patients in Kanagarian Puluik - Puluik, was evidenced with p value = 0.000 ($p < 0.05$) .

DISCUSSION

From the results of the study, data showed that more than half (88.6 %) of respondents hypertension in women . These results indicated that patients with hypertension mostly women. this matter in accordance with the explanation Widiyani (2014) in another study found a greater threat of hypertension in women than in men and 30-40 % of vascular disease is more common in women, because there were significant physiological differences between the cardiovascular system of women and men , including many hormones that plays a role in regulating blood pressure , which then plays a role in the severity and frequency of heart disease .

Blood pressure varies greatly respondents before intervention with the lowest systolic blood pressure of 100 mmHg and 158 mmHg highest with an average of 132.70 mmHg . Lowest diastolic blood pressure of 80 mmHg and 95 mmHg with the highest average of 89.52 mmHg . In addition to pharmacological and non-pharmacological treatment , according to Widharto (2007) to treat hypertension can also be done with complementary medicine . Purwanto (2013) describes the complementary medicine is a way of disease prevention are performed as supporting conventional medicine or as treatment of other options beyond medical treatment. Widharto (2007) also explained that recently a lot of people like complementary medicine , several reasons including : the cost is affordable , does not use chemicals and healing effect is quite significant. (Murphy , 2009) describes one of the complementary non-pharmacological treatments that can handle hypertension is by giving sweet star fruit (Averrhoa Carambola L.)

Sweet star fruit is very beneficial for lowering blood pressure because of fiber, potassium, phosphorus and vitamin C and also has a diuretic effect that can expedite the urine so it can reduce the workload of the heart (Chaturvedi, 2009). From the results of the study showed, that by giving fruit sweet star fruit for 7 days as much as 280 grams of sweet star fruit to the respondents, there was a decrease in systolic blood pressure and diastolic. This can be evidenced by an explanation Wiryowidagdo (2002), the sweet star fruit are rich in fiber and high in potassium maintain the body's electrolyte stability through the sodium potassium pump, reducing the amount of water and salt in the body as well as loosening blood vessels so that the amount of salt will dilate blood vessel, this condition helps blood pressure to normal.

According to the assumptions of researchers, the decrease in blood pressure after being given a sweet star fruit due to the high potassium contained in the sweet star fruit that can maintain the stability of the electrolyte body. This according to the theory Wiryowidagdo (2002) Potassium maintain stability through the body's electrolyte sodium potassium pump, reducing the amount of water and salt, these conditions helps blood pressure become normal.

Of the 40 respondents have obtained an average yield of sistollik and diastolic prior therapy star fruit and amounted to 148.8 mmHg, diastolic 93.65, while the average yield systolic and diastolic after therapy sweet star fruit of 132.7 mmHg and 89.5 mmHg. A decrease in the average value of systolic and diastolic between pre-test and post-test for each 16.1 mmHg and 4.1 mmHg due to the effect of therapy sweet star fruit, as evidenced by Paired t test and Wilcoxon test result value of significance (2-tailed) 0.000.

Basically the sweet star fruit contains high levels of potassium and sodium low as anti-hypertensive drugs. The content of potassium (potassium) in 1 star fruit (127 grams) is equal to 207 mg. This showed that the potassium in star fruit has the most number of total minerals are in the womb 1 star fruit (Afrianti, 2010). The results were consistent with Fitriana (2012), which showed that a significant decrease in blood pressure ($p = 0.001$), whereas juice sweet star fruit can affect high blood pressure.

Hypertension occurred from Angiotensin I that convert into Angiotensin II by ACE (Angiotensin I - Converting Enzyme) which have a role in raising blood pressure through two major actions, ie decreasing intracellular fluid and extracellular fluid in the body increased (Murphy, 2009). In sweet star fruit therapy, which is high in potassium and low in sodium, high potassium will be able to reduce the production or secretion of antidiuretic hormone (ADH) and thirst. This hormone acts on the kidneys to regulate urine osmolality and volume. By decreasing the ADH, then urine that is excreted out of the body will increase, so that it becomes watery with a low osmolality. Because of its concentrated,, intracellular fluid volume will be increased by draw fluid from the extracellular portion. While declining NaCl concentration would be concentrated by lowering fluid extracellular then will lower blood pressure (Astawan Made, 2010). Murphy (2009) that the sweet star fruit containing phosphorus and vitamin C can lower tension or stress which is a risk factor for hypertension.

CONCLUSION

From the research can be concluded the average value of systolic blood pressure and diastolic of respondents before therapy was given star fruit sweet of 148.3 mmHg and 93.7 mmHg. The average value of Systolic and Diastolic blood pressure after the respondent was given a sweet star fruit is respectively 132.8 and 89.2 mmHg. There was the influence of sweet star fruit (Averrhoa Carambola L) against the reduction of blood pressure in patients with hypertension in Kenagarian Puluik - puluik , Kec. Bayang Utara Kab. Pesisir Selatan with significance p value = 0.000 where $p < 0.05$

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It was suggested for researchers to increase knowledge and deepen experience of researchers on nursing research and development insight into traditional medicine by consuming fruits sweet star fruit (carambola Averhoa L). For educational institutions, should be used as a treatment literature complementary about how to decrease in blood pressure of patients by eating sweet starfruit (Averhoa carambola L). For the Health Center, alternative medicine can be given to people by eating sweet star fruit (carambola Averhoa L

). For nursing should be able to provide an alternative treatment for lowering blood pressure in hypertensive patients.

REFERENCES

- Abidin, (2008). Tanaman obat belimbing manis.
<http://abidinblog.blogspot.com/2014/12/tanaman-obat-belimbing-manis.html>.
- Afrianti& Leni. (2010). 33 Macam buah-buahan untuk kesehatan. Bandung:Alfabeta
- American Heart Association (2014). *Understanding and Managing High Blood Pressure*. New York: Arbor pharmaceutical ltd.
- Artikel Kesehatan, (2009). Mengatasi tekanan darah tinggi atau hipertensi.
<http://kumpulan.info/sehat/artikel-kesehatan/48-artikel-kesehatan/174-mengatasi-tekanan-darah-tinggi-atau-hipertensi.html>.
- Arisandi,Y &Yovita, A. (2005). *Khasiat tanaman obat*. -Ed.01-. Jakarta: Pustaka Buku Murah
- Artikel Kesehatan. (2009). Mengatasi tekanan darah tinggi atau hipertensi.
<http://kumpulan.info/sehat/artikel-kesehatan/48-artikel-kesehatan/174-mengatasi-tekanan-darah-tinggi-atau-hipertensi.html>.
- Astawan, (2009). Cegah hipertensi dengan pola makan.
[http://zamagung.student.umm.ac.id/2014/12/14/artikel-kesehatan-blitar/Beevers,D.G.\(2000\).TekananDarah.Jakarta:DianRakyat](http://zamagung.student.umm.ac.id/2014/12/14/artikel-kesehatan-blitar/Beevers,D.G.(2000).TekananDarah.Jakarta:DianRakyat)
- Astawan, (2009). Sehat Dengan Buah. Jakarta : Dian Rakyat
- Beevers, D.G (2002). Terapi Jus & Ramuan Tradisional untuk Hipertensi. Jakarta : Agromedia Pustaka.
- Brunner&Suddart. (2002).Buku Ajar Keperawatan Medikal Bedah. -Ed.08-. Vol 1.Jakarta: EGC
- Corwin. A , (2000) Hipertensi dan komplikasinya. Diakses 5 November 2014
- Dinas Kesehatan Kota / DKK. (2014). Rekapitulasi Penyakit Terbanyak di Sumbar.
- Guyton&Hall, (2007). BukuAjarFisiologi Kedokteran. -Ed. 11-. Jakarta:EGC
- Gylbrant,Toda.(2010). Belimbing Dapat Menurunkan Hipertensi.
<http://todagylbrant.blogspot.com/1211/14/belimbing-dapat-menurunkan-hipertensi.html>
- Hayens, B.dkk. (2003). Buku Pintar Mengatasi Hipertensi. Jakarta : Ladang Pustaka Universitas Sumatera Utara
- Kholish, N (2011). Bebas hipertensi seumur hidup dengan terapi herbal. Yogyakarta:Real Books.
- Notoatmodjo, S (2003). Ilmu Kesehatan Masyarakat (prinsip-prinsip dasar). Jakarta : PT Rineka cipta
- Notoatmodjo, S (2005). Metodologi Penelitian Kesehatan. Jakarta : PT Rineka Cipta
- PuskesmasAsam Kumbang (2013). Laporan rutin akhir tahun Puskesmas Asam Kumbang
- Smeltzer, S.C & Bare B.G(2002). Keperawatan medikal bedah. Jakarta : EGC
- Susalit, E, et al, (2000). Faktor Resiko Hipertensi dan Penatalaksanaannya. Pusat Jantung Nasional Harapan

- Smeltzer, Suzanne C. (2002). Buku Ajar Keperawatan Medikal Bedah Brunner & Sudarth. Jakarta: EGC.
- Riskesdas, (2007) <http://www.litbang.depkes.go.id>
- Widharto, (2007) Bahaya Hipertensi. Jakarta : Sunda Kelapa Pustaka
- Williams, B (2005). Tekanan Darah Tinggi. Jakarta : Erlangga

EDUCATIONAL-SPIRITUAL CARE INTERVENTION (ESCI) AND SELF-CARE OF COMMUNITY DWELLING SENIOR CITIZENS WITH TYPE 2 DIABETES

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ABSTRACT

Background: Education is necessary to enable a person with diabetes to practice self-care. Spirituality can be a primary source of strength among senior citizens, providing them with satisfying connectedness.

Objectives: This study determined the association between educational-spiritual care intervention and self care practices such as diet, exercise, medication, self monitoring of blood glucose, and risk prevention in community dwelling senior citizens with type 2 diabetes. It also aimed to describe the experiences of senior citizens in the educational-spiritual care intervention (ESCI) in terms of the quality of intervention which brings treatment satisfaction.

Method: The study which utilized a quasi-experimental pretest posttest design, involved 33 senior citizens (79% female, 21% male), diagnosed with type 2 diabetes consulting in a private primary care center. Focus group discussion was used to gather qualitative data. The intervention included prayer, scripture reading, religious music, diabetes education and small-group nurse-patient interaction. T-test of dependent samples and Pearson product moment correlation were utilized to determine the difference between pre-test and posttest scores and the relationship between variables, respectively.

Result: Findings indicated a significant improvement in five out of seven diabetes self-care activities and in three out of four spiritual health domains after the intervention. Findings further revealed that family support allowing elderly to receive care, concordant co-morbidities, uncomfortable symptoms and clinical visit care associated with self-care. The number of years of diagnosis was not associated with self-care. The qualities of the intervention that bring about treatment satisfaction are described by themes such as: humanness, accessibility, being educational, effectiveness and social connectedness.

Discussion: The practice of diabetes self-care activities are the unique outcome of diabetes education. The improvement in the practice of five out of seven diabetes self care practices indicates effectiveness of the intervention. It also indicates that there are other factors that affect the practice of self-care. Culture, family support, cautiousness of the person can affect the practice of self-care activities. Education therefore needs to be given at longer span of time, likewise with spiritual care interventions. A good nurse-patient relationship is important in the attainment of the qualities of an intervention that can bring about treatment satisfaction.

Conclusion: Educational-spiritual care intervention (ESCI) is a holistic intervention that enhances diabetes self-care, improves spiritual health and brings

treatment satisfaction among community dwelling senior citizens with type 2 diabetes.

Keywords: *spiritual care, educational intervention, senior citizen, type 2 diabetes, satisfaction.*

BACKGROUND

Diabetes is a major cause of morbidity and mortality of people all over the world. It is a serious disease associated with severer complications (WHO, 2012, Khardori, 2011, Duran, 2012). Self-care is essential in the control of diabetes.

Nearly 400 million people has type 2 diabetes worldwide (WHO, 2011) and is growing by ten million yearly (IDF, 2005), especially in the pacific region. The prevalence of diabetes mellitus peaks in old age specifically at age 60 and above (McCulloch and Munshi, 2006, De Guzman, 2012). Older persons with diabetes can be experiencing physiologic and psychological changes that weaken their motivation and self-efficacy (Sitnikov and Weinger, 2007) Spirituality on the other hand, is found to be a primary source of strength among older persons (Daaleman, et.al, 2004).

Management of type 2 diabetes in primary care is usually rendered primarily by the attending physician including patient education and counselling. This practice is disadvantageous for the elderly because this is often given in a short and limited time. Spiritual care is also not a part of diabetes primary care in the elderly.

OBJECTIVE

This study determined the association between educational-spiritual care intervention and self care practices such as diet, exercise, medication, self monitoring of blood glucose, and risk prevention in community dwelling senior citizens with type 2 diabetes. Furthermore, it aimed to describe the experiences of senior citizens in the educational-spiritual care intervention (ESCI) in terms of quality of intervention which brings about treatment satisfaction.

METHODS

A quasi-experimental one group pre-test-post-test design was utilized for the study. Baseline data on diabetes self-management and spiritual health of participants were measured before the intervention using standardized questionnaires with permission from the authors namely the Summary of Diabetes Self Care Activities (Toobert, et.al, 2000) and Spiritual Self-Assessment Index (Stranahan, 2007) respectively. For the qualitative part of the study, focus group discussion was utilized to determine patient satisfaction to treatment

The study was conducted at Mother and Child Center a primary health care facility located at General Santos City, Philippines. The facility is serving an average of 96 patients with diabetes per months, 60% or 58 of which are senior citizens. The patients mostly belong to the low income groups, coming from General Santos City and neighboring municipalities of Saranggani and South Cotabato in the Philippines..

The participants of the study were composed of senior citizens who are seeking consultation in the said primary care facility with specific criteria. Purposive sampling design, a non-probability sampling procedure that required selection of participants based on the characteristics of the population of interest was used in the study.

An ethical review was conducted and approval to conduct the study was granted by the University of the Philippines Open University -Ethical Review Board. Informed consent as research subjects was sought from the participants.

T-test of dependent samples and Pearson product moment correlation were utilized to determine the difference between pre-test and posttest scores and the relationship between variables, respectively

Educational-Spiritual Care Intervention (ESCI)

Educational spiritual care intervention (ESCI) is a three and a half (3 1/2) hours teaching intervention which has three main parts namely devotional service, diabetes education and nurse-patient interaction. The Devotional Service Session is a one (1) hour session which includes prayer, scripture reading, sharing and religious music. The Diabetes Education Session is one and a half (1 1/2) hours session guided by an instructional design which aim to discuss diet, exercise, and glucose monitoring, medication and risk prevention. The nurse-patient interaction on the other hand, is a one (1) hour small group of face to face interaction with a nurse. In this session, the nurse demonstrates a diabetes self-care skill which can pertain to diet, exercise, glucose monitoring medication and risk prevention. The session ends with a group prayer.

RESULTS

Profile of the participants

There were 33 participants who were eligible for the study. The average age of the participants in the study is 66.27 years. Majority were female at 78.8% (n= 26) and mostly married (n=27, 81.8%), lowly educated (n=10, 30.3%), having only at least 6 years of education, having no sufficient income for their basic and medical needs (n=17, 51.5%) and mostly supported emotionally and materially by family members (n=19, 57.6%).

The participants' clinical profile shows that majority of the participants have been diagnosed to have type 2 diabetes mellitus for more than five years (n=14, 42.4%). On the average, the duration of illness of participants is 6.82 years. Majority of the participants have two or more co-morbidities (n=20, 60.2%) with hypertension as the most commonly reported comorbidity (n=20, 60.6%). Most of the participants have no doctors consultation last month (n=17, 51.5%).

Self Care Activities Before and After Intervention

Table 1

Comparison of baseline and post test scores on Diabetes Self Care Activities

| Scale | Pre test scores (n=33) | Post test score (n=33) | t-value | p-value |
|--------------|---------------------------|---------------------------|---------|---------|
| General Diet | 3.56 (2.92) | 6.24 (1.0) | -5.324 | .000 |

| Scale | Pre test scores (n=33) | Post test score (n=33) | t-value | p-value |
|-----------------------|------------------------|------------------------|---------|---------|
| Specific Diet | 4.59 (1.73) | 5.63 (1.10) | -2.660 | .012 |
| Carbohydrate-spacing | 5.12 (2.43) | 4.45 (2.52) | .942 | .353 |
| Physical Activity | 3.61(2.15) | 5.58 (1.83) | -4.428 | 0.00 |
| Medication | 5.00(3.15) | 6.24 (2.11) | -2.110 | 0.04 |
| Blood Glucose Testing | 0.38(1.24) | 0.85 (1.54) | -2.251 | 0.03 |
| Foot Care | 6.25(0.90) | 6.47 (0.72) | -1.05 | 0.299 |

Result shown in table 1 indicates that here is a significant improvement in the practice of general diet, specific diet, physical activity, medication and blood glucose monitoring practices of senior citizens after the intervention, but not in the practice of carbohydrates spacing. An improvement in foot care practices was observed after the intervention but the improvement was not significant.

Spiritual Health Before and After the Intervention

Table 2 . Comparison of baseline and post test scores on spiritual assessment index

| Domains of Spirituality | Pre test scores (n=33) | Post test scores (n=33) | t-value | p-value |
|-------------------------|------------------------|-------------------------|---------|---------|
| Hope and Cope | 21.09 (2.32) | 22.67 (2.32) | -3.151 | 0.004 |
| Transcendence | 22.18 (2.33) | 23.70 (1.46) | -3.273 | 0.003 |
| Meaning and Purpose | 20.70 (2.77) | 21.30 (3.37) | -.975 | 0.337 |
| Religious Practices | 22.85 (2.41) | 24.36 (1.05) | -3.412 | 0.002 |

As shown in table 2, there is an improvement in post test scores of participants compared to baseline in terms of spiritual health after the educational spiritual care intervention (ESCI). However it is only in the domain of meaning and purpose that the changes are not significant.

Clinical Outcomes on Blood Pressure and Blood Sugar levels Before and After the Intervention

Table 3

Comparison of baseline and post test level of clinical outcomes specifically systolic and diastolic blood pressure and fasting blood sugar levels

| Scale | Pre test level (n=33) | Post test level (n=33) | t-value | p-value |
|---------------------------|-----------------------|------------------------|---------|---------|
| Systolic blood Pressure | 129.0 (20.7) | 122.12 (16.5) | 1.512 | 0.140 |
| Diastolic blood pressure | 79 .00 (8.3) | 76.06 (10.3) | 1.685 | 0.120 |
| Fasting Blood Sugar Level | 150.48 (51.5) | 146. 70 (51.2) | 0.805 | 0.427 |

Results shown in table 3 indicates that there is no significant change in the systolic blood pressure, diastolic blood pressure and as well as in the fasting blood sugar levels of participants .

Diabetes Self Care Activities and Family Support

Table 4

Association of family support to the diabetes self care activities

| Diabetes Self Care Activities | Statistic | P |
|-------------------------------|-----------|-------|
| General Diet | 0.225 | 0.208 |
| Specific Diet | 0.411 | 0.017 |
| Carbo spacing | -0.200 | 0.260 |
| Physical Activity | 0.258 | 0.147 |
| Medication | 0.318 | 0.710 |
| Blood Glucose Testing | 0.200 | 0.264 |
| Foot Care | 0.158 | 0.381 |

Table 4 indicates that the result of this study show that there is no association between family support and General Diet, ikewise with carbohydrate spacing, physical activity, medication, blood sugar testing and foot care. However, the practice of eating a specific diet has shown to be associated with family support in this study.

Diabetes Self Care Activities and Number of Clinic Visits

Table 5

Association of number of clinic visits to the diabetes self care activities

| Diabetes Self Care Activities | Statistic | P |
|-------------------------------|-----------|-------|
| General Diet | 0.256 | 0.151 |
| Specific Diet | 0.048 | 0.790 |
| Carbo spacing | -0.110 | 0.540 |
| Physical Activity | -0.026 | 0.880 |
| Medication | -0.188 | 0.940 |
| Blood Glucose Testing | 0.345 | 0.049 |
| Foot Care | 0.269 | 0.131 |

As indicated in table 5, there is a significant association between blood glucose testing and number of clinic visits as manifested by this study. Self Care activities regarding diet such as general diet, specific diet and carbohydrate spacing are not associated with clinic visits. Other self care tasks such physical activity and foot care are also not associated with frequency of clinic visits.

Diabetes Self Care Activities and Number of Years Diagnosed with Diabetes

Table 6

Association of number of years diagnosed with diabetes mellitus to the diabetes self care activities

| Diabetes Self Care Activities | Statistic | P |
|-------------------------------|-----------|-------|
| General Diet | -0.303 | 0.087 |
| Specific Diet | 0.152 | 0.397 |
| Carbo spacing | -0.280 | 0.110 |
| Physical Activity | -0.037 | 0.836 |
| Medication | 0.198 | 0.268 |
| Blood Glucose Testing | -0.099 | 0.583 |
| Foot Care | -0.063 | 0.727 |

Table 6 shows that study results revealed that number of years diagnosed with diabetes is not in any way associated with any of the diabetes self-care activities.

Diabetes Self Care Activities and Number of Co-morbidities

Table 7

Association of number of co-morbidities to diabetes self care activities

| Diabetes Self Care Activities | Statistic | P |
|-------------------------------|-----------|-------|
| General Diet | 0.346 | 0.049 |
| Specific Diet | 0.407 | 0.019 |
| Carbo spacing | 0.246 | 0.160 |
| Physical Activity | 0.265 | 0.136 |
| Medication | 0.311 | 0.780 |
| Blood Glucose Testing | 0.041 | 0.583 |
| Foot Care | -0.197 | 0.272 |

The results in table 7 reveals that there is significant association between general and specific diet and number of co-morbidities However, carbohydrate spacing, physical activity, medication and foot care shows no association with the number of co-morbidities.

Qualities of the Education-Spiritual Care Intervention (ESCI) that Brings Satisfaction to Participants

The results of the study revealed that there are five (5) distinct themes of qualities of the intervention. These themes of qualities include being humane, being accessible, being educational, being effective (Margollis , et.al. , 2003) and allowing social connectedness.

Being humane is manifested by: verbalizations like, “....I am happy with how I was treated. I feel being part of a family”....” I was touched with this kind of treatment”....“the good attitude of the nurses and attention they gave us, the way they speak to us is good.”

Being accessible is manifested by descriptions like, “ I tried the recommended diet and I feel full when I eat”.....”I was able to control my food intake”.....” I can perform the diet and exercise suggestions.”

Being educational was manifested by descriptions like,, “I understand many things such as what is the meaning of diet and the importance of medication and exercise”,....”I know what is more than enough and what is enough.” “my knowledge on caring for myself improved. Now I am not afraid. I feel hopeful that I can control my diabetes.”

Being effective was described by participants in statements like,....” “.... I feel good after implementing the diet and exercise”..... my blood sugar level decreased.”

The satisfaction related to connectedness was explained by the participant by saying: “ I was able to find new friends. We shared experiences and advice each other. I am happy with the fellowship”....I was given good attention.

DISCUSSION

This study was conducted to generate insights on the use of educational spiritual care intervention to improve self care activities and spiritual health of community dwelling senior citizens in a primary health care clinic and to determine what qualities of the intervention brings about treatment satisfaction. There were 33 seniors who participated in this study with an average age of about 66 years old, mostly female, married, lowly educated and poor. They are receiving both emotional and material support from their family. On the average the participant has been diagnosed with diabetes for 6 years with two or more comorbidities and does not have regular clinic consultation.

There is a significant improvement after undergoing educational-spiritual care intervention (ESCI) in the diabetes self-care activities such as general and specific diet, physical activity, medication, and glucose testing. This is consistent with the results of the investigation done by Norris and colleagues (2001), that revealed that self-management training is effective in improving dietary practices as well as performing physical activities. Furthermore, improvement of diabetes knowledge after undergoing diabetes education improves medication practices as well as glucose monitoring (Al-Qazzaz, et.al, 2011, Naccashaian, 2009)

The self-care activity of carbohydrate spacing did not improve after the education-spiritual care intervention (ESCI). According American Association of Diabetes Educators (AADE,2003) Food intake (frequency of food intake) is affected by culture. In the Filipino culture, eating is a common family bonding activity. The conduct of this study happened simultaneously with a religious celebration that enabled the family members to gather and dine together around plenty of food. Also, in a Filipino family, the women have the cultural role of nurturing and caring for its members by preparing food and serving family members. This affected the practice of carbohydrate spacing of the participants in this study considering that majority of them are women.

Foot care practices of participants did not improve significantly after the ESCI intervention. Foot care is not a common practice in this population as revealed in the focus group discussion. Older persons are cautious in adapting changes and new ideas (Speros, 2009). Furthermore, teaching can only lead to significant behavior change if conducted regularly and in long term (Sacco, et. al., 2011).ESCI was done only at one time.

The Spiritual health of the participants in this study improved significantly after the intervention particularly in the domains of hope and cope, transcendence and religious practices, but not in the domain of meaning and purpose.

To hope and cope is to overcome difficulties and expect improvements to come. Transcendence on the other hand is going beyond one's strength or doing things greater one's strength. Religious practices are manifestation of one's spirituality. When people have physical illness, they tend hold on to their religious belief to retain a sense of control and to hope and cope. The belief that prayer influences God to act on their behalf encourages individuals to have a desire to connect with God to have a sense of confidence and control over their condition. A manifestation of belief is seen in the practice of religious activities such as rituals, sacraments and devotionals acts such as scripture reading and meditation (Aaron, Levine and Burstin, 2003)

Meaning and purpose is a motivational force that enables one to endure difficulties. Participants in this study did not show significant improvement in the meaning and purpose domain after the intervention. Koenig, et.al., (2001) explained that a close relationship with God is developed overtime through constant prayer, bible reading, having fellowship and sharing one's faith.

The association between several demographic variables and self care activities were determined in this study. Results revealed that family support is associated only with practice of specific diet but not with other self-care activities. The number of clinic visits is only associated with blood glucose monitoring but not with other self care activities. The number of years diagnosed with diabetes is not associated with any self care activities. The number of co-morbidities is associated only with general and specific diet, but not with other self-care activities.

Majority of the participants in the study were elderly women whose cultural role is as family caregiver. When performing this role, they prioritize their family's welfare over their own needs. They are less likely to alter the family's diet to follow their diabetic diet. Altering the family's diet and eating schedule even for the patient's health benefit is less likely to happen because doing so is in conflict with their maternal roles; although, they will most likely cook a special meal for their sick family member (Delamater, 2006). The practice of other self-care activities is not associated with family support because these activities may be done without altering family practices.

Supportive family activities such as cooking for the patient, buying them "light" foods or exercising with them, encourage the practice of self-care but, over-solicitous behavior such as nagging and threatening do not encourage self-care. (Mayberry and Osborn, 2012). The accuracy of the family's knowledge on diabetes management and the confidence in supporting the performance of complex tasks in diabetes management also affect self-care. The patient is more likely to perform self-care practices that are acceptable to his/her family (Jordan and Jordan, 2010).

Blood sugar monitoring is the most frequently physician prescribed procedure for diagnosis and evaluation. This explains the reason for the improvement of this self-care practice in association with clinic visits. Study results revealed that clinic visits are not associated with diet, physical activity,

medication and foot care. Though the performance of these activities are part of the medical regimen prescribed by their attending physician, the limited time in the physician's office may be insufficient to rationalize its importance. According to Rosland, et.al. (2008) adherence to complex diabetes management activities such as meal planning, food selection, timing of food intake, exercise and foot care is associated with increased support by nurses and other non-physician members of the health care team.

The number of years the patient was diagnosed with diabetes was not associated with any self care activities. Diabetes mellitus is often manifested by mild symptoms that can be mistaken as a normal consequence of old age. When symptoms of the disease are negligible, the patients are not encouraged to perform self-care. Self-care is more likely practiced when symptoms become disturbing and uncomfortable.

Having concordant co-morbidities other than diabetes is associated with practice of general and specific diet. Concordant co-morbidities has similar treatment regimen with diabetes, such as a diet following a meal plan of high amount of fruits and vegetables, low fat, low salt and high fiber. Other diabetes self-care practices such as carbohydrate spacing, physical activity and foot care are not associated with concordant diseases and therefore are less likely to be performed. For example, the presence of arthritis can prevent the performance of physical activity in a person with diabetes. The patient is less likely to take medication when co-morbid conditions like hypertension or foot problems are having mild or no symptoms at all. Management of co-morbid conditions having bothersome symptoms are prioritized reducing the amount of time for diabetes self-care (Piette and Kerr, 2006).

The most common co-morbid condition of the participants in this study are hypertension, blurred vision, vascular disease and arthritis.

According to Kuan(2013), demands for attention, depression and insecurities are manifestations of old age. This rationalizes the participants' accounts that being able to perform self-care, being able to understand the management of the disease, perception of improvement in health status, being spiritually motivated and being able to receive attention as important encounters that brought satisfaction in their experience of the educational-spiritual care intervention (ESCI) in this study.

The participants were able to account during the during focus group discussion that they were able to experience genuine concern, kindness and respect, being able to perform the treatment being taught, being able to learn new things, being able to meet expectations and being able to form fellowship and friendships, when undergoing educational-spiritual care intervention (ESCI). These experiences led them to describe the qualities of the intervention as being humane, being accessible, educational, effective and one that encourage social connectedness. These qualities according to participant brought them treatment satisfaction.

An effective diabetes management is rooted from good nurse-patient relationship. Patients expect nurses to be genuine, willing to talk to them in a manner that is not hurried and to respect their autonomy to make decisions over their care. (Shattel, 2004) This is an important factor that encourages patients to

follow treatment regimen and the practice of self-care. Treatment satisfaction is influenced by the manner the care is delivered. An important factor that influences treatment satisfaction is the attitude of nurses and other health care providers (Fan, et.al., 2005). Treatment satisfaction leads to the desire to sustain and continue treatment

The treatment regimen for diabetes can be inconvenient and requires behavior change. Moreover, its effects cannot be observed immediately, but over time with constant practice of self-care. Educational-spiritual care intervention can provide the older person empowerment and the ability to transcend through difficulties to enable to perform and sustain the performance of diabetes self-care practices.

CONCLUSION

Educational-Spiritual Care Intervention is a holistic nursing intervention that improves the practice of diabetes self care activities, spiritual health and treatment satisfaction of community dwelling older persons with type 2 diabetes.

The Family is an important aspect of diabetes care in older adults. Having frequent clinic visits and having concordant co-morbidities can improve the practice of diet and glucose testing in community dwelling older adults.

Community dwelling older adults are satisfied with interventions with the qualities such as: being humane, accessible, educational, effective, and encourages social connectedness

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REFERENCES

- Aaron, K., Levine, D., Burstin, H.(2003, December). African-American Church participation and health care practices. Retrieved from: <http://www.medscape.com/viewarticle/465911>
- Al-Qazaz, HK., Sulaiman, S., Hassali, MA., Shafie AA, Sundram, S., Al-Nuri, R., Salim, F. (2011, December). Diabetes knowledge, medication adherence and glycemic control among patients with type 2 diabetes. *International Journal of Clinical Pharmacy*, 33(6),1028-1035, doi: 10.1007/s11096-011-9582-2. Retrieved from: www.ncbi.nlm.nih.gov/pubmed/22083724
- American Association of Diabetes Educators (2003). Position Statement; Standard for Outcomes measurement of Diabetes Self Management Education. *The Diabetes Educator* 29 (5) 804-816. Retrieved from: http://www.diabeteseducator.org/export/sites/aade/_resources/pdf/PS-Outcomes.pdf

- Daaleman, T. P., Perera, S. And Studenski, S. A. (2004, January) Religion, spirituality and health status in geriatric patients. *Annual Family Medicine*. 2(2). 49-53. doi: 10.1370/afm.20. Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1466615/>
- De Guzman-Quizon, O.Q. (2012) Prevalence of diabetes mellitus in the Philippines and medical recommendation for use of alternative sweeteners. How much is too much? Retrieved from: (http://www.pca.da.gov.ph/coconutrde/images/sugarpdfs/ODQuizon_ISDF.pdf)
- Delamater, A. (2006, April). Improving patient adherence. *Clinical Diabetes*, 24(2), 71-77 doi: 10.2337/diaclin.24.2. Retrieved from : <http://clinical.diabetesjournals.org/content/24/2/71.full>
- Fan, V., Burman, M., McDonell, M., Fihn, S.(2005, March) Continuity of care and other determinants of patient satisfaction with primary care. *Journal of General Internal Medicine* 20(3):226-233. doi: 10.1111/j.1525-1497.2005.40135.x. Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1490082/>
http://findarticles.com/p/articles/mi_m0CTG/is_1_19/ai_n6072019/?tag=content;coll
- International Diabetes Federation (2005) Global guidelines for type 2 diabetes Retrieved from: <https://www.idf.org/webdata/docs/IDF%20GGT2D.pdf>
- Jordan, D., Jordan, J. (2010, August). Self care behaviors of Filipino-American adults with type 2 diabetes mellitus. *Journal of Diabetes and Its Complications*;24(4) 250-258., doi: 10.1016/j.jdiacomp.2009.03.006 Retrieved from : <http://www.ncbi.nlm.nih.gov/pubmed/19615920>
- Khadori, R. (2011). Type 2 Diabetes Mellitus.. Retrieved from: <http://emedicine.medscape.com/article/117853-overview#a0101>
- Koenig, H., Larson, D., Larson, S.(2001, March). Religion and coping with serious medical illness. *The Annals of Pharmacotherapy* volume 35(3), 352-359. Retrieved from : <http://www.ncbi.nlm.nih.gov/pubmed/11261534>
- Margolis, S., Al-Marqouqi, S., Revel, T., Reed, R.(2003). Patient satisfaction with primary health care services in United Arab Emirates. *International Journal for quality in Health Care* 15(3)241-249.. Retrieved from : <http://www.ncbi.nlm.nih.gov/pubmed/12803352>
- Mayberry, L., Osborn, C. (2012, June). Family support, medication adherence, and glycemic control among adults with type 2 diabetes. *Diabetes Care*.35(6)1239-1245. doi:10.2337/dc11-2103. Retrieved from: <http://care.diabetesjournals.org/content/35/6/1239.full>
- McCulloch D. K., Munshi, M., (April, 2012) Treatment of type 2 diabetes mellitus in the elderly patient. UpToDate. Retrieved from: <http://www.uptodate.com/contents/treatment-of-type-2-diabetes-mellitus-in-the-elderly-patient?view=print>
- Naccashian, Z. (2009) The impact of diabetes self care management education on glucose management in ethnic Armenians with type 2 diabetes. (Doctoral Dissertation). California:Azusa Pacific University-School of Nursing) .

- Retrieved from: [http:// www.proquest-dissertations-and-theses-proquest-nursing-and-allied-health-sciences](http://www.proquest-dissertations-and-theses-proquest-nursing-and-allied-health-sciences).
- Norris, S., Engelgau, M., Narayan, K.M. (2001, March). Effectiveness in self management training in type 2 diabetes. *Diabetes Care*, 24(3), 561-587. Retrieved from : <http://www.ncbi.nlm.nih.gov/pubmed/11289485>
- Piette, J., Kerr, E. (2006, March). The impact of co-morbid chronic conditions on diabetes care. *Diabetes Care*, 29(1), doi: 10.2337/diacare29.03.06.dc05278. Retrieved from : <http://care.diabetesjournals.org/content/29/3/725.long>
- Rosland, A. , Israel, B., Cofield, M., Palmisano, G., Sinco, B., Spencer, M., Heisler, M. (2008). When is social support important? The association of family support, and professional support with specific diabetes self management behaviours. *Journal of General Internal Medicine*, 22(12). Doi 10.1007/s11606-008-0814-7.
- Sacco, w., Bykowski, C., Mayhem, L., White, K. (2011, October). Educational attainment moderates the effect of a brief diabetes self-care intervention. *Diabetes Research and Clinical Practice*, 95(1), 62-67. doi:10.1016/j.diabetes.2011.08.027. Retrieved from : <http://www.ncbi.nlm.nih.gov/pubmed/21992869>
- Shattell, M. (2004). Nurse-patient interaction: A review of the literature. *Journal of Clinical. Nursing*, 13, 714-722. Retrieved from: http://libres.uncg.edu/ir/uncg/f/M_Shattell_Nurse_2004.pdf
- Sitnikov, L., Weinger, K. (2007) Diabetes education in older adults. In M. Munshi & L. Lipsitz (Eds.). *Geriatric Diabetes*. Informa Healthcare USA. Inc.
- Speros, C.I. (2009, September) More than words: Promoting health literacy in older adults. *Online Journal of Issues in Nursing*. 4(3), Manuscript 5. doi:10391/OJIN.Vol14N03M05. Retrieved from: <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol142009/No3Sept09/Health-Literacy-in-Older-Adults.html>
- Stranahan, S. (2008) A spiritual screening tool for older adults. *Journal of Religious Health*, 47(1), 491-503 Retrieved from : <http://www.ncbi.nlm.nih.gov/pubmed/19093676>
- Toobert, D, Hampson, S. Glasgow, R. (2000) The summary of diabetes self care activities measure. *Diabetes Care* 3(23)943-950.
- World Health Organization. (2012). Stroke, cerebrovascular accident. Retrieved from: http://www.who.int/topics/cerebrovascular_accident/en/

THE DIFFERENCES BETWEEN GREEN TEA AND CHOCOLATE SPA THERAPY ON THE CHANGES OF FATIGUE LEVEL OF WOMEN

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ABSTRACT

Background: SPA (Solus Per Aquam) is a holistic treatment because it combines elements of the body, mind and soul. There are many clients who have fatigue experience. They expected to restore the vitality of the person with SPA.

Aim: Analyzing the differences of green tea and chocolate SPA to changes in fatigue levels.

Methods: This research was used randomized trials with double blinds in 2 group treatments (green tea and chocolate SPA). Determination of the samples using the PS program (α : 0.05, Power: 0.95, δ : 0.4, σ : 0.57), obtained a total sample of 108 respondents with conditions simple random sampling technique. Inclusion criteria: women, SPA client, normal BMI, age 25-45 years old, married, experiencing fatigue (according NANDA), like green tea or chocolates SPA. Exclusion criteria: menstruation, pregnancy, hypertension, commuter. The research instrument is 12 items of fatigue questionnaire from NOC-0007. Clients receive SPA treatment once a week for 4 times. Therapy process carried out by 4 therapists who have been taught Swedish massage techniques and Standard Operational Procedure of SPA. Measurement of fatigue levels before and after treatment by enumerator nurse. The differences in the level of fatigue in two treatment groups were analyzed with Mann Whitney test (95% CI).

Results: Based on the measurement of fatigue with green tea treatment is from severe fatigue levels to moderate (mean before $51 \pm SD 3.2$, after 35 ± 3.6). The measuring level of fatigue with chocolate treatment is from severe fatigue to mild (mean before $46 \pm SD 3.3$, after $25 \pm SD 2$). Mann Whitney test results showed p value $0.000 < 0.05$. There are differences fatigue levels in green tea and chocolate SPA. Chocolate treatment group were able to reduce the level of fatigue faster than green tea group. Visioli et al (2012), said that molecules of flavonol-rich chocolate is able to create the microcirculation of the skin. Levels of serotonin, dopamine, adrenaline and noradrenaline increased so that relaxation is achieved. Exhaustion on the client can be quickly resolved. Only a small effect is obtained by inhaled and mouth.

Conclusions & Recommendations: Chocolate can reduce fatigue faster than green tea SPA. Nurses need to understand the dosage of using SPA to provide proper holistic intervention.

Keywords: fatigue, woman, spa therapy

BACKGROUND

International Spa Association (ISPA) in 2001 have started to assess the development of SPA in Asia, including in Indonesia. Market needs up to 2015 growing very rapidly. This growth every year to reach an average of 37% were obtained from the hotel, resorts, offices and housing. In line with this development which had exclusive SPA also began to be enjoyed by a wide circle. Print and electronic media and even the health sector also popularized the SPA. The results are educated people are starting to use the services of SPA treatments in maintaining a healthy body.

According Heny (2009), the client felt the long-term benefits when it sensed that the soul, body and pikiran feel relaxed after a SPA treatment. They feel the tranquility of the busyness that makes the tired and stressed. Services in the SPA (Solus Per Aquam) is holistic because it involves elements of soul, body and mind. The type of service that is in it include: massage (touch), aromatherapy (sense of smell), scenery, music (sound) and taste (food and drink).

Based on a preliminary survey of 20 clients who come to the SPA services in Purwodadi-Grobogan, 80% experienced fatigue. Fatigue according to NANDA (00093) is an overwhelming sustained sense of exhaustion and Decreased physical and mental capacity for work at the usual level. Holistic nursing interventions on fatigue diagnosis can be performed with SPA therapy. Clients who experience fatigue is expected to restore the vitality of the body with the SPA.

OBJECTIVES

a. General Purpose

To analyze the difference SPA green tea and chocolate to changes in fatigue levels.

b. Specific Purpose

1. Knowing the fatigue level changes on the client before and after therapy green tea SPA
2. Knowing the fatigue level changes on the client before and after therapy SPA brown
3. Knowing the delta changes SPA green tea and chocolate to the level of fatigue

METHODS

This study begins with a preliminary study on 20 people SPA client. Preliminary research conducted to determine the amount of primary research. The data obtained are then processed with PS program. Determination of the samples using the PS program (α : 0.05 Power: 0.95, δ : 0.4, σ : 0.57). Obtained total sample conditions of 108 respondents with simple random sampling technique.

This research was used randomized trials with double blinds in two group treatments (green tea and chocolate SPA). Inclusion criteria: women, SPA client, a normal BMI, age 25-45 years old, married, experiencing fatigue (According NANDA), like green tea or chocolates SPA. Exclusion criteria: menstruation, pregnancy, hypertension, commuter.

The research instrument is 12 items of fatigue questionnaire from the NOC-0007. SPA treatment would be held during 4 weeks. Clients receive SPA treatment once a week for 1.5 hours. Services SPA consists of aromatherapy, music, body scrubs, massage and drinking green tea or chocolate. Aromatherapy inhalation is used in accordance with the type of SPA that green tea and incense sticks of chocolate-cv Gopala Bhakta Sakti Bali. Body Scrub from brown powder of PT Bumi Tangerang or green tea The head Djenggot mixed with white scrubs Sekar Sari-Surakarta (Comparison 2: 1). Massage oil is used virgin coconut oil as much as 15 ml. Brewed green tea or chocolate (5gr/100ml) with hot water.

Therapy process carried out by four therapists who have been taught Swedish massage techniques and Standard Operational Procedure of the SPA. Measurement of fatigue levels before and after treatment by enumerators nurse. The differences in the level of fatigue in two treatment groups were analyzed with Mann Whitney test (95% CI).

RESULT

Table 1. Differences spa treatment green tea and chocolate

| treatment | | N | df | Mean | P value |
|-----------|-----------|-----|-----|------|---------|
| | | | | | < 0.000 |
| outcome | green tea | 54 | 106 | 14 | |
| | chocolate | 54 | | 20.4 | |
| Total | | 108 | | | |

Based on the measurement of fatigue treatment with green tea is from moderate to severe fatigue levels (mean \pm SD 3.2 before 51, after 35 ± 3.6). The measuring level of fatigue with chocolate treatment is from mild to severe fatigue (mean \pm SD 3.3 before 46, after 25 ± 2 SD). Mann Whitney test results showed p value $0.000 < 0.05$. There are differences in fatigue levels of green tea and chocolate SPA. Chocolate treatment group were able to reduce the level of fatigue faster than green tea group.

DISCUSSION

The impact on green tea the lower than chocolate SPA. It most probably due to tea less impact on blood pressure. Taubert et al (2007), stating that the administration of green tea for 7 days in a row does not have any significant impact on the decline in blood vessels and Tong et al (2014) stating that the consumption of green tea is inversely associated with 5-year BP change among Chinese adults. According Hartoyo (2006), the impact of green tea consistently occurs after 30 minutes with a wave stimulating α . This wave as a marker of the emergence of a feeling of relaxation.

The effect of chocolate in relationship with blood pressure mechanism. Bernaert (2012), said that the available evidence from meta-analyzes on the relation between cocoa or chocolate and blood pressure (BP) indicate a BP-lowering effect. The four meta-analyzes that have been Carried out over the recent years have progressively included an increasing number of studies and all come to

the same conclusion that the regular intake of cocoa or chocolate Significantly lowers blood pressure. The most recent meta-analysis Showed a Considerable and clinically meaningful effect of cocoa flavanols on BP reduction with -3.16 mm Hg for systolic BP and -2.02 mm Hg for diastolic BP, which was highly statistically significant.

This opinion is reinforced by Visioli et al (2012), that molecules of flavonol-rich chocolate are able to create the microcirculation of the skin. A level of serotonin, dopamine, adrenaline and noradrenaline was increasing so that relaxation is achieved. Boolani et al (2014), brewed cocoa can acutely influence aspects of sustained attention but it has little effect on motivation to perform cognitive tasks or feelings of energy and fatigue.

Chocolate SPA impact is not only in muscular but also the cellular and molecular level. Exhaustion on the client can be resolved quickly intervening. Only a small effect is Obtained by inhaled and mouth.

CONCLUSIONS & RECOMMENDATIONS

Chocolate can reduce fatigue faster than green tea SPA. Nurses need to understand the dosage of using SPA to provide proper holistic intervention.

REFERENCES

- Heny A. 2009. Cantik, Sehat dan Sukses Berbisnis Spa, Penerbit Kanisius Yogyakarta.
- Herdman and Kamitsuru. 2014. NANDA International, Inc. NURSING DIAGNOSES: Definitions & Classification 2015–2017. Tenth Edition. John Wiley & Sons, Ltd., The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK
- Bernaert H, Ieme B, Leen A and Tobias. 2012. *Industrial Treatment of Cocoa in Chocolate Production: Health Implications*. Springer-Verlag Italia.
- Boolani A, Jacob L, Bryan L, and Patrick O. 2014. Acute effects of brewed cocoa consumption on sustained attention, motivation to perform work and feelings of anxiety, energy and fatigue. *The FASEB Journal*. Vol 28(1) Supplement 647.1
- Hartoyo.A. 2006. Teh dan khasiatnya bagi kesehatan: Sebuah Tinjauan Ilmiah. Penerbit Kanisius Yogyakarta.
- Taubert D, Roesen R, Schömig E. 2007. Effect of cocoa and tea intake on blood pressure. *Arch Intern Med*. 167:626–634
- Tong X, Anne W T, Lynne G, Gary A W, and Shi Z. 2014. Tea consumption is inversely related to 5-year blood pressure change among adults in Jiangsu, China: a cross-sectional study. *Nutr J*. 13: 98.
- Visioli Francesco, Elena B, Andrea P and Rodolfo P. 2012. *Chocolate and Health: A Brief Review of the Evidence*. Springer-Verlag Italia.

EFFECT OF BRAIN GYM ON GROSS MOTOR EARLY CHILDHOOD IN 3-5 YEARS

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ABSTRACT

Background: The age of three years is the progress of progress in improving motor development and maturity, if not yet well developed, it would require a stimulation and learning appropriate to indicate brain activity, which focuses synaptic plasticity at the level of dendrite morphology changes so that the treatment stimulates parts of the brain Brain Gym overall which includes in dimension convergence, lateral, and focus. Problems often arise in early childhood is a slow motion reaction and poor motor coordination affects the motor skills of children.

Methods: The method in this study is a quasi experiment, sample collection is done by purposive random sampling of early childhood 3-5 years, amounting to 62 as a control group, with 30 boys and 32 children.

Results: The result of differences in the average value of the locomotor abilities test before being treated and after treated value $t_{tes} = -2853$; $sig = .008$. The average value of the object proficiency test before being given treatment and after the treatment given value of $t_{test} = -2451$; $sig = 0.021$. There are differences in the average value of the locomotor capabilities and ability tests are very significant objects before treated and after treated Brain Gym.

Conclusion: Concluded that the effect of treatment of Brain Gym in children early age 3-5 years. All this gives a meaning that Brain Gym activities can contribute to improving the results of gross motor skills of children.

Keywords: Brain Gym, Gross Motor Skills

BACKGROUND

Children are the hope for parents, seeing grow in a healthy, intelligent and active motion is priceless happiness for parents. A kid have the characteristics that are different from adults, kids require special attention to the optimization of growth and development. (Cahyo D, 2010). Motor development has increased rapidly in children early age, from 0 to 5 years. The age of three years is the progressive development progress is reflected in the improvement of motor skills (Arif, 2004).

Age 4 and 5 years old, the child has reached perfection motor in motion such as walking, running, jumping and so on. If this happens during the slowdown will affect motor skills. Early-old child who had a less rapid reaction and coordination of movements will experience difficulties in implementing rapid response, right and accurate. This happens because the maturity neurosensomotoric not yet well developed, it would require an proper learning and stimulation (Lengkong, 2006). If the maturity of the

motor neurons is not well developed motor skills menpenaruhi itself. If the motor skills are less good then not only activity that hampered their independence but also affect the development of children as well as social activities, concentration ability and motor ability is also poor planning (Penningto, 2002).

Research shows motor skills and sensory experiences in childhood is very important for the healthy development of the human brain, as well as the basis for all higher level and learn the skills of motion by motion pattern itself (Hayywood, 2009).

Age differences can produce different patterns of movement according to the life span. Different experiences with the environment, can have an effect on the cerebral cortex that produce perceptual changes and behavioral competencies. Further research using environmental paradigm has demonstrated activity and dependence on the level of synaptic plasticity, focusing on changes in dendrite morphology. Plasticity in the brain cells are formed during the treatment of Brain Gym (Maskell et al, 2004).

Brain Gym work to stimulate parts of the brain as a whole which affects three dimensions: convergence, lateral, and focus. Centralization dimension relates to the ability to coordinate the upper brain (cortex) and the lower part of the brain (brain stem) (Sachudin et al, 2009). Dimensional focus is the ability to coordinate areas of the back and front of the brain. While Dimensions Lateral, referring to bilateral itegrasi brain, the ability to cross the center line of the body and work in visual, auditory, and kinesthetic and dimensions are designed to help stimulate the integration of bilateral and bihemisparese (Dennison et al, 2004)

Brain Gym studies on the effects on the perception motor skills such as the ability to cross the midline, static equilibrium primary school children aged 7-11 years with 60 students who had been classed basic learning disorders, and to visual stimuli students all showed positive results and significant. Additional results by examining a combination of academic value, improved motor skills and perception in the process of learning in students with disabilities after the Brain Gym is also significant (Prihastuti, 2009).

Dennison laterality Repatterning and Brain gym with a period of eight will affect hand-eye coordination to the 10 students, shown to result in greater improvement on standardized tests dibandingkan with normal (Carroll, 1988)

This research was conducted in two and Preschool Playgroup (that is and Preschool Playgroup Darussalam as a treatment group (Brain Gym) and Playgroup and Preschool Intan Permata as the group of control. Preliminary observations seen the lack of good coordination of movement in children and Preschool Playgroup. Actually, all children and Preschool Playgroup can run, but whether they are true or run in accordance with the pattern of gross motor skills sendiri. Hal ran it was evident at the time the child ran visible lack of coordination between the legs and hands while running, sometimes hand position straight and not bent or movements are not in accordance with the movement of the feet. Gross motor skills is very important in the independence and activity of the child developmentally appropriate child lived it, for it so is important that the development of motor skills in accordance with the pattern and brain development of the child.

Based on the above researchers found that the problems that often arise in children early age is the slow growth of the body in children early age and have less rapid reaction and poor motor coordination greatly affects the motor skills of the child, so the child has difficulties in carrying out the reaction as do the movements. Therefore, the researchers are interested in mengetahui pengaruh Brain Gym for gross motor skills at an early age kids 3-5 years.

METHODS

In this study using a quasi experimental research methods and goals to be achieved in this study, is to know the influence of Brain Gym on gross motor skills in children aged 3-5 years.

Population this research is early childhood 3-5 years in early childhood and a Preschool Playgroup Darusallam in Pabelan totaling 63 people, with 34 boys and 29 girls as the treatment group and the Playgroup and Preschool (kindergarten) Diamond Jewel Tomb of Haji as a control group who berjumlah 62 people, with 30 boys and 32 children. Sample collection technique is done with purposive random sampling, namely "sampling technique with the inclusion criteria and exclusion".

The instrument used to measure the variables is using the Test of Gross Motor Development conducted at baseline and end of study. Gross Motor Development Test is a standardized test to measure gross motor development of children from 3 years to 10 years. This test consists of two subjects that measure gross motor skills in children, namely (a) the subset of locomotor and (b) a subset of the control object. Subset locomotor intended to measure gross motor skills that require the coordination of body movement when the child moves. While the subset of control object intended to measure the general ability of children to the manipulative skills.

There are six in a subset of locomotor skills such as running, gallop, jump, jump leaps, horizontal and slide. While there are six skills on a subset of control objects such as hitting a stationary ball, drizzle stationary, catching, kicking, throwing and fraudulent overh and roll. Each skill has a set of performance criteria and the performance of children assessed using a 0 or 1 for each experiment. All skills have 4 criteria except the "leap", which is only 3, and "hop", which has five performance criteria. For example, an item for which criteria (1) The settlement began with the movement of the bottom hand / arm; (2) the child rotating hips and shoulders to the point where non-throwing side face wall; (3) the weight is transferred to the step with the opposite foot to throw hands, and (4) the next hand to throw the ball out with a diagonal field of the body.

RESULTS

Problems on the growth and development especially in gross motor skills that lead to delays in motor development in children early from the analysis of the problem include a lack of optimization of the growth and development of children with stimulation. Less stimulation process is a problem because with through stimulation of the child can accelerate the process sinaptogenesis in the brain that causes the connections between nerve fibers in the brain running smoothly and there was a coordinated movement. Statistical data analysis was based on a number of subjects 29 students. The results of data analysis using the technique of "paired-samples t-test" below.

The result of differences in the average value of gross motor skills test before being treated and after treated, the value $t_{test} = -9462$; $sig = .000$. It can be interpreted that there are differences in the average value of gross motor skills tests were very significant before treated and after treated Brain Gym.

Table 1. Descriptive Data Analysis Group BrainGym

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|----------|-------|----|----------------|-----------------|
| Pair 1 | TGMD_pre | 62.90 | 29 | 2.193 | .407 |
| | TGMD_po | 63.83 | 29 | 2.189 | .406 |
| | st | | | | |

The average value after treated (M post test = 63.83) greater than the average value before the treated (M pre-test = 11.70). An increase in the average value showed a positive effect on the provision of treatment Brain Gym scores gross motor skills test results of students.

Value distribution (SD) Showed that the deployment after diberiperlakuan (SD post test = 2.189) smaller than before given treatment (pre-test SD = 2.193). The size of the value of this spread indicates that the difference in the values of existing smaller than the value in the group posttest-value before being treated. In other words, that the values posttest results more homogeneous.

Table 2. Results Locomotor Capabilities Assessment And Capability Object Brain Gym Group

| Group | <i>t-tes</i> | Sig |
|-------------------|--------------|-------|
| Treat Locomotor | -2,853 | 0,008 |
| Control Locomotor | -2,451 | 0,021 |

The result of differences in the average value of the locomotor abilities test before being treated and after treated, the value ttes = -2853; sig = .008. While the average value of the object proficiency test before being treated and after treated value ttes = -2451; sig = 0.021. Terdapat difference in the average value of the locomotor capabilities and ability tests are very significant objects before treated and after treated Brain Gym.

Table 3. Results Locomotor Capabilities Assessment and Group Objects Control Paired ability Samples Test

| Kelompok | <i>t-tes</i> | Sig |
|-------------------|--------------|-------|
| Treat Locomotor | -0,895 | 0,378 |
| Control Locomotor | -2,8188 | 0,37 |

The result of differences in the average value of the locomotor ability test in the control group, the value ttes = -2.8188; sig = .037. While the average value of the group ability test object ttes value = -.895; sig = 0.378. It can be interpreted that the test is very significant locomotor ability, but to the ability of the object is not significant.

DISCUSSION

Locomotor ability of the body's motor behavior moving from one place to another. While the ability of an object (manipulative) memerlukan eye coordination, hand or other body part to get around the object, or a place to move, and it requires a lot of cooperation between the right and left brain balance. According to Rentschler (2005). Dimensions Lateral on Brain Gym integrate the two hemispheres of the brain to the development of all bilateral skills, including binocular vision and binaural hearing. Binocularity and lateral integration is the basis for the read, write, and communicate.

Lateral integration is also important for gross motor activities and fluids to move and think at the same time together. Likewise on the dimensions of convergence refers to the integration of the upper and lower parts of the body, and the rational upper (cortical) and under emotional (limbic system) of the brain. This integration arises from the inter-relationship between proprioception, balance and vision. These systems work together to provide a sense of the center of one's body as a reference point for the direction of up, down, back, front, left, right, in and out. So with Brain Gym formation of eye and hand coordination anatara well so kemamapuan object (manipulative) for the better. Likewise with dimensions focal brain integrate front and back as well as give them an understanding proprioceptors to give them information about the position and movement through space, so that it integrates postural and spatial awareness materialize (Chernick, 2009)

Brain Gym effect on perceptual motor skills like crossing the mid-line balancing capabilities, static primary school children aged 7-11 years with 60 students who had been classed basic learning-disabled (Maskell, et al., 2004). Dennison laterality Repatterning, Edu-K movement groups, and group control and to visual stimuli siwa all showed positive results and significant advantage was found in this study. Additional results of a study examining the combination of academic grades improved motor skills and perception in learning disabled students after the intervention Brain Gym is also significant (Syarief, et al. 2006)

Research on "Physiology Response Against Brain Gym Reaction Speed Motor Candidate For Talented Young Athletes" by using the sample treatment group doing Brain Gym for 2-10 minutes with joy without any pressure and then the process of brain plasticity occurs. But if treatment is given Brain Gym is done with a load and a sense of pressure and carried with unhappy then the process is difficult plasticity occurs (Marquire, 2000). Based on several studies can be concluded that Brain Gym has influence in motor skills. The motor skills acquired through the learning process. Because the learning process always involves the cognitive processes, the study Brain Gym has also been done to improve memory.

CONCLUSION

The effect of treatment of Brain Gym in children early age 3-5 years. All this gives a meaning that it activities can contribute to improving the results of gross motor skills kids.

Greeting terimakasih on Preschool Playgroup and Darusallam Pabelan and Preschool Playgroup Intan Permata Makam Haji help researchers collaborate. A

means for learning in early childhood are regularly held itself given the many benefits to be gained in learning prose.

REFERENCES

- Arif, 2004. *Mengembangkan Otak Anak*. <http://www.AnakJenius.com>. (diakses, 12 Oktober 2010).
- Cahyo, D. 2010. *Tahapan dan Periode Perkembangan Gerak*. <http://onopirododo.wordpress.com/2010/03/24/tahapan-dan-periode-perkembangan-gerak/>. (diakses 29 April 2010).
- Carrroll. 1988. *The Effect of Edu-K on Psychometric Measures of Achievements of Special Ed Elementary Students*. A chronology of Annotated Research Study Summaries in the Field of Education Kinesiology. BrainGym Research. Ventura, CA, U.S.A.: The Education Kinesiology Foundation.
- Chernick. 2009. Thesis. *The Effect Movement Based Intervention Program on Learning Grades K-12*. Educational of Arts. Northern Michigan University.
- Hayywood, K. M and Getchell. 2009. *Life Span Motor Development Fifth Edition*. Human Kinetics.
- Lengkong, Frieda. 2006. A Study on Brain Gym and: “*Their fine-motor skills have improved. We can observe this when the do activities like simple embroidery, fulling in a pattern with color, putting beads on a string, or keeping their handwriting on the line.*” Frieda lengkong, North Sulawesi, Indonesia. From Brain GymR Journal, Nov. 2006, Volume XX, No. 3.
- Maquire. 2000. *Brain Gym*. The Topyright Owners Reverse All Rights to its Reproduction. Spain: Cataluya.
- Maskell, B., Shapiro, D. R., & Ridley, C. 2004. Effects of Brain Gym on overhand throwing in first grade students: a preliminary investigation. *The Physical Educator*, 61(1), 14-22.
- Pennington. 2002. *Gender Defferences in Gross and Fine Motor Abilities in Preschool Aged Children in West Virginia*. Thesis. Marshall University.
- Prihastuti. 2009. *Pengaruh Barain Gym terhadap Peningkatan Kecakapan Berhitung siswa sekolah Dasar*. Cakrawala Pendidikan, Februari Th. XXVIII no.1.
- Rentschler, Mary. 2005. *The Basic of Educational Kinesiology*. Journal of Behaviour Optometry. Volume 16, Number 4. Washington DC.
- Sachudin, dkk. 2009. *Respon Fisiologi Senam Otak terhadap Kecepatan Reaksi Motorik bagi Calon Atlet Muda Berbakat*. Jurnal Iptek Olahraga, vol. 11, No. 2: 109–120.
- Syarief, dkk. 2006. *Studi Kegiatan Pengembangan Anak Usia Dini yang Holistik dan Terintegrasi*. Staf ahli Meneg PPN Bidang SDM dan Kemiskinan. Kementrian Negara Perencanaan Pembangunan Nasional. BAPPENAS.

“ARMING JUAN DELA CRUZ NIGHTINGALE’S LAMP”: PHENOMENOLOGICAL INQUIRY INTO THE MENTEE LIVED EXPERIENCES OF NOVICE NURSES

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ABSTRACT

Background: Nursing profession asks for new and innovative ways of both learning and reflecting, thus mentoring serves the key solution on this uprising concern. Despite widespread evidence of mentorship programs across the globe, relatively little research has studied the mentee lived experiences of Filipino novice nurses.

Purpose: Hence, it was the intention of this research to (1) explore the thoughts of novice nurses on mentoring experience, and (2) describe their experiences in terms of individual view of self, the future and relationship with others.

Method: Descriptive phenomenology through Open-ended semi-structured, audio-taped interview was conducted to twenty-eight (28) novice nurses who saturated the phenomenon under study. Utilizing Collaizi’s seven steps of analysis, meaning units were extracted from the significant statements shared and clustered according to themes. Constant comparative methods were employed to correct assumptions.

Results and Discussion: Through constant comparison method, their experiences were therefore described as “Arming Juan Dela Cruz Nightingale’s Lamp” phenomenon. Four main themes emerged from the data analyses were (1) Tracking with Bow and Arrow: Mentoring defined as helping arm and windows of opportunities (2) Guarding with Bulletproof Vest: Mentoring defined as security blanket and coat of confidence (3) Clutching with Combat’s Decree: Mentoring defined as chain of strong collaboration, and (4) Illuminating with Badge of Courage: Mentoring defined as a cycle process.

Conclusion: What nursing vocation needs more than brilliant minds are flexible individuals who can bend through evolving health care standards and can blend with the various colours of people they deal with every day.

Keywords: Mentoring, Mentee, Nursing, Caring and Novice Nurses

BACKGROUND

Nursing to date has proven its worth and dignity to the world. It has been recognized as one of the leading professions that uniquely provides care to all clients in various settings regardless of creed, beliefs and cultural perspectives. At the most basic level, a nurse is someone who provides hands-on care to patients in a variety of settings. This includes physical needs, which can range from total care to helping a patient with illness prevention. Since the demands in healthcare are

also changing, the nursing profession should also learn to strategize how it can align its objectives and philosophies to meet such demands and needs (Lekan, et al, 2011). Changes may be inevitable, but nurses to a great extent should be able to bridge the gap in theory and practice because of the innate characteristics of preparedness and anticipation which are at hand (Mockett, et al, 2006).

In order to cope with this evolution, mentoring programs should be established to equate the need for enhancement of nurses in the clinical setting (Blauvelt & Spath, 2008). Novice nurses, in this respect, should be trained on a path to a critical reflective education to develop more than just the motor-skill for caring but to tie together the capacity to attend to these motor-skills and, by loving them up theoretically, to be able to reflect and extend their implementation of a wide range desiderata relevant to assessing quality performance. Receiving forms of analgesia from mentorship programmes give the most wonderful piece of healing from experts' own voice. Relating each agony and responding to its release is the best way to feel a healing touch. Mentors can be healers and mentoring can be a form of healing. Experts' stories, memories, emotions, humour and knowledge can convey the best prophylaxis for the thirsty novice nurses for the unfortunate things they experience from day to day basis in their clinical lives. Mentoring can fill the spaces which are missing on the hearts of the novice nurses. And at the time of this research endeavour, we were able to envisage a blind and blank spots on the mentee lived experiences. Several researches gleamed the lived experiences of mentors but none of which explicated the mentee lived experiences.

OBJECTIVES

The purpose of this study was to elucidate the lived transitional and mentoring experiences of novice nurses. Specific aims that set the collection of data included: (1) exploring the thoughts of novice nurses on mentoring experience, and (2) describing the experience of novice nurses surrounding the period of mentorship programme, in terms of individual view of self, the future and relationship with others.

METHODS

Research Design

The researcher utilized a descriptive phenomenological approach using Collaizi's Analytical method. This method included "direct exploration, analysis, and description of particular phenomena, as free as possible from unexamined presuppositions, aiming at maximum intuitive presentation." (Spiegelber, 1975, p. 57, as cited by Speziale and Carpenter, 2007).

This qualitative research method is grounded on Edmund Husserl's philosophy, where the participant's experiences are taken as verbatim and accepted as truth, as it is evident on the steps that Collaizi (1978, as cited by Speziale and Carpenter, 2007) presented: (1) Describe the phenomenon of interest, (2) Collect participants' descriptions of the phenomenon, (3) Read all participants' descriptions of the phenomenon, (4) Return the original transcripts and extract significant statements, (5) Try to spell out the meaning of each significant statement, (6) Organize the aggregate formalize meanings into clusters

of themes, (7) Write an exhaustive description, (8) Return to the participants for validation of the respondents, and (9) If new data are revealed during the validation, incorporate them into an exhaustive description.

Sample and Sampling Technique

Twenty-eight (28) novice nurses were the informants that saturated the phenomenon under study in a tertiary hospital in Cagayan Valley, Region II, Philippines. Purposive sampling was utilized and semi-structured audio-taped interviews were conducted with approximately 20-30 minutes or longer as permitted and as deemed necessary to describe the meaning of the experience of the participants. The purpose of such interview technique is to hear what the participant has to say in his own story (Boykin and Schoenhofer, 1991) in his own terms providing a wide dimension of understanding of the phenomenon.

Data Collection and Analysis

Permission to conduct the research study was granted by the Chief of Hospital. A disclosure statement was provided, informing participants of the purpose of the study, and informed consent was obtained. All participants completed the demographic questionnaire at the beginning of the research process. We assured the participants that they were free not to answer any questions that made them uncomfortable, and that they were free to terminate or reschedule the interview at any time. However, none of the participants indicated that he or she wished to end the interview prematurely.

Each transcript was coded independently to arrive at common themes. Constant comparative methods were employed to correct assumptions and verify the mentee experiences vis-à-vis the participants' actual experience. In order to verify consistency and reliability of coding, three transcripts were checked with a doctorally prepared colleague with expertise in qualitative technique. Consistent with Husserlian phenomenological method, we undertook the process of "bracketing" to ensure that the rigor is not compromised due to our pre-conceived beliefs and biases. This was done by identifying and writing sets of pre-conceived assumptions and beliefs on a journal prior to and during the data collection and analysis stages.

Meaning units were extracted from the significant statements shared during the interviews and clustered according to themes. Upon data analysis, we went back to the participants and validated the findings gathered.

Ethical Considerations

Confidentiality was assured by assigning each participant a code number. Transcripts were destroyed after the data analysis. A master list of participants' names and code numbers was kept in a locked office in the event that a participant needed to be contacted for further information, or scheduled for a follow-up interview. All participants were informed about study purposes and procedures and since the study involves only collection of information, there are no anticipated risks for involvement. Participants were also informed that there is no direct benefit from study participation. The study is unable to provide any support for position retention and extension of the contract. However, participants were

explicated that the information will help the administrators to plan effective strategies for upliftment of nursing profession.

RESULTS

Through constant comparison method, their experiences were therefore described as “Arming Juan Dela Cruz Nightingale’s Lamp” phenomenon. Four main themes emerged from the data analyses were (1) Tracking with Bow and Arrow: Mentoring defined as helping arm and windows of opportunities (2) Guarding with Bulletproof Vest: Mentoring defined as security blanket and coat of confidence (3) Clutching with combat’s decree: Mentoring defined as chain of strong collaboration and (4) Illuminating with badge of courage: Mentoring defined as a cycle process.

Theme 1: Tracking with Bow and Arrow: Mentoring defined as helping arm and windows of opportunities

A challenge facing the nursing profession is in the promise of safe and quality care embodied with the core competencies set by the Philippine Board of Nursing honed on caring and compassion. As the maladies in the profession continues to hamper the system, several nursing authorities devised tool to equate the need for refining and re-engineering nursing knowledge and skills hence, mentoring ignited. Most of the mentee informants discussed their fear of the unknown when they were exposed in the clinical area.

M-09: I was a little nervous in going to duties because during my college days, I only got few days of exposure in the area. Thanks God that I have my mentor to help me.

Many of the novice nurses discussed their positive acceptance of mentoring process as a weapon to exemplify their knowledge and skills, facing new challenges and embracing change. They viewed it as a lens of hope for brighter and towering nightingales’ lamp.

M-11: As a novice nurse in the field, I was being supervised by nurses who are expert and knowledgeable. I find it beneficial because there are instances that I am not sure on what action I should take and good thing there is someone could ask for.

M-04: We are blessed that our mentors always criticize us whenever we do wrong because in such a way we become more responsible and competent.

M-15: I know that it takes time to produce a very competent nurse and everyone should start at the bottom.

Aside from the usual routines in the area, informants happily verbalized the different opportunities opened during the mentoring process, the windows of camaraderie and a panorama of personal and professional fulfilment.

M-02: It gives me a sense of fulfilment that I am able to meet the expectations of my mentors, the newcomer that I am in the field. I am happy because I have my second parent and friend.

Theme 2: Guarding with Bulletproof Vest: Mentoring defined as security blanket and coat of confidence

As calls for transformation in nursing, the Philippines grapple on mentoring ways to better endow nurses with competencies for practice within emerging health care systems. More so, mentee informants shared their thoughts on mentoring as source of security and confidence.

M-02: Being mentored gives me the feeling that I am never alone and that whatever questions I have in mind, there is someone who can answer them. I always feel the guidance and support of the nursing staff, may it be as simple as reading the transcriptions of Doctors to complex skills such as admission of patients until its referral of untoward signs and symptoms.

Yet, novice nurses continue to grapple with how to create and sustain such transformations in the day-to-day practice and its particular contexts, living a nursing life with mentors creates a defensible coat against dreaded fires of mediocrity and stagnation. *"I was able to perform my nursing responsibilities with confidence and credibility because I was mentored,"* and *"Confidence is being honed in performing nursing tasks requiring substantial nursing prudence and judgment,"* shared by M-07 and M-16 respectively.

Theme 3: Clutching with Combat's Decree: Mentoring defined as chain of strong collaboration.

Yet the reality of aspiring and achieving this goal seems to be shaky in this time of nursing crisis, mentoring serves as a useful arm to harmonize an integrated and collaborative partnership to realize and translate excellence in nursing practice. Mentee informants openly discussed their over-all thoughts on mentoring experience.

M-16: I learned from my mentor and he/she also reflects a piece of knowledge also from me. It is also like having wings. I learned how to put proper judgment by my own considering human equality.

M-05: I was changed by the experience, I felt confident to all my doings, I even loved myself more and most of all I respected my profession.

M-28: Mentoring serves as a constant reminder that we are not all knowing person, we are not perfect, whereof we are working

harder to keep on learning and expose ourselves to the different protocols and routines in the ward.

Theme 4: Illuminating with badge of courage: Mentoring defined as a cycle process.

Informants also mentioned their responsibility on the carriage over direction and vision of the nursing profession. “*Mentoring is a cycle*” hence “*We learn from our mentors now and in the future we will also become the mentors to new nurses,*” shared by informants M-20 and M-22, respectively.

DISCUSSION

With convergence of the idea of nursing as a helping art profession (Wiedenbach, 1963) which is altruistic in nature, the need to professionalize the human care is an essential and challenging call to all nurses. The development of the capacity to care and valuing the significance of care will be attained in particular time, within a particular frame of reference and within the specific context of its defined role of service in society from the time when Roach (1984) elucidates that nursing’s essential care does not change but on how nursing fulfils its caring role, that is.

The journey to excellence in safe and quality nursing care was defined as from novice to expert paradigm (Kozier, et al, 2004) and was refocus on defining and conceptualizing expertise by surfacing the potential steps in achieving competency. It is clearly articulated the need to immerse one with seasoned nurses to different nursing situations for the expression of nursing as caring (Boykin and Schoenhoefer, 2001) and for the solitude application of the fundamental nursing rudiments of “empirics, aesthetics, personal knowledge and ethics” (Carper, 1978 p. 14) in all silhouette of nursing arena. Developing competency for nurses is primary concern of those who are involved in the provision and deliverance of care to its stakeholders and recipients (Bally, 2007). The need of such mentorship program is imperative strategic action of nurses who have the direct and close contact to patients in various settings since they know exactly what is needed, wanted and accepted within the parlance of nursing discipline.

The results clearly showed that amidst rapid economic change and innovations, nurses’ competence should remain intact and embedded in any area in which they will be assigned though there are specifications on job analysis and details, seasoned nurses can parallel their competence from general to specific through mentoring. Nelsey & Brownie (2012) confirmed that mentoring is a sustainable strategy to create a safe and satisfying workplace that helps improve the nurse retention rates, and that this relationship involves certain degree of mutual trust, teaching, counselling and friendship. These were also at par with the results from the study of Wilson (2014) where educational use of self became the integral motivation for mentors to create an avenue of learning for nurses. The study concluded that mentoring becomes personal and meaning-laden activity which focuses on engaging the novice nurses to the practice, which in turn, the mentors achieved self-purpose and identity. It then affirms that mentoring is a significant process within the parlance of the praxis which is beneficial to both

parties: the mentors and the mentees. Moreover, safe, quality and effective care is considered as the primordial motivation of nurses in the pursuit of appropriate actions needed and deliberately intended for this purpose.

Nurses, on its end, continue to be at the frontline in healthcare delivery system in which promotive, preventive, curative aspects of care are all rendered to ascertain that they remain in the limelight of providing what is expected from them (Siu & Sivan, 2011). The call for immediate response in the development of competence is imperative (Walker, et al, 2010). This not only guides nurses, but it will indeed serve its purpose as catalyst towards progressive transcendental changes on how nurses will be viewed by the local and international community, gearing internationalization of nurse competence (Scully, 2014). On that note, the growing need of maintaining professional image of nurses serve as propeller to continue its existence amidst socio-politico-economical and innovative changes in which this will not stop them in meeting the needs of patients in a multi-diversified environment.

CONCLUSION

In line with this advancement in nursing, developing nurses' competence is at paramount to strengthening their capacity in order to exemplify what is expected from them and the outcome of the deliverance of care in all levels of healthcare. Through this advocacy, the practice of nursing will certainly continue to flourish its processes for the hope that all nurse professionals will benefit from it and will no longer be considered as non-existent profession. Through mentorship, all nurses who are entering the discipline will be more adaptive, responsive, accountable and responsible to their bestowed functions as culled from international guidelines and standards in the practice of nursing.

REFERENCES

- Bally, J. (2007). The Role of Nursing Leadership in Creating a Mentoring Culture in Acute Care Environments. *Nursing Economics*, 25(3):143–149.
- Blauvelt, M., & Spath, M. (2008). Passing the Torch: A Faculty Mentoring Program at One School of Nursing. *Nursing Education Perspectives*, 29(1):29–33.
- Boykin, A. & Schoenhofer, S. (1991). Story as Link between Nursing Practice, Ontology and Epistemology. *Journal of Nursing Scholarship*, 23(4):245–248.
- Boykin, A. & Schoenhofer, S. (2001). *Nursing as Caring: A Model for Transforming Practice*. New York: Jones & Bartlett, National League for Nursing Press.
- Carper, B. (1978). *Fundamentals Patterns of Knowing*. Aspen System Corporation.
- Kozier, B., Erb, G., Berman, A., & Snyder, S. (2004). *Fundamentals of nursing* (7th edition). Philippines: Pearson Education South Asia PTE LTD.
- Lekan, D., Corazzini, K., Gilliss, C., & Bailey, D. (2011). Clinical leadership development in accelerated baccalaureate nursing students: an education innovation. *Journal of Professional Nursing*, 27:202–204.

- Mockett, L., Horsfall, J., & O'Callaghan, W. (2006). Education leadership in the clinical health care setting: A framework for nursing education development. *Nurse Education Today*, 26:712–718.
- Nelsey, L. & Brownie, S. (2012). Effective leadership, teamwork and mentoring- Essential elements in promoting generational cohesion in the nursing workforce and retaining nurses. *Collegian*, 19: 197–202.
- Roach, M. S. (1984). *Caring: The Human Mode of Being, Implications for Nursing*. Ottawa: The Canadian Hospital Association Press. ISBN 0-7727-3740-1
- Scully, N. (2014). Leadership in nursing: The importance of recognising inherent values and attributes to secure a positive future for the profession. *Collegian* (article in press). [doi:10.1016/j.colegn.2014.09.004](https://doi.org/10.1016/j.colegn.2014.09.004)
- Siu, G., & Sivan, A. (2011). Mentoring experiences of psychiatric nurses: From acquaintance to affirmation. *Nurse Education Today*, 31: 797–802.
- Speziale, H. and Carpenter, D. (2007). *Qualitative research in nursing: advancing the humanistic imperative*. 4th ed. Lippincott Williams & Wilkins: Philadelphia, PA.
- Walker, R., Cooke, M., Henderson, A., & Creedy, D. (2010). Characteristics of leadership that influence clinical learning: A narrative review. *Nurse Education Today*, 31: 743–746.
- Wiedenbach, E. (1963). *Clinical Nursing: A Helping Art*. New York: Springer Publishing Co., Inc.
- Wilson, A. (2014). Mentoring student nurses and the educational use of self: A hermeneutic phenomenology study. *Nurse Education Today*, 34:313–318.

GUIDED IMAGERY AS A COMPLEMENTARY THERAPY FOR DEPRESSION IN NURSING

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ABSTRACT

Background: Depression is estimated to be the first cause of morbidity in the future. Depression has an impact on the lives of individuals, families, social, and economic levels. Currently complementary or alternative medicine becomes an important part in the health service. Nurses as health professionals have an important role in developing a complementary therapy in nursing. One of the complementary therapies is being developed in nursing is guided imagery. Guided imagery is a cognitive therapy developed to teach patients to use their own imagination to bring a positive influence in depression.

Objective: *The purpose of this study describes the implementation of guided imagery therapy by nurse for decreasing depression.*

Methods: *The method used in this study was collected and analyzed 6 articles about guided imagery. The articles were collected through electronic database ProQuest and EBSCO. No limitation the time periode was applied to the search. The following search terms were used guided imagery and depression.*

Results: *Nurses make the script on the CD that contains steps of guided imagery therapy. Nurse creates a pleasant atmosphere and quiet. Patients were asked to listen on CD that instructions to: 1) Comfortable and relaxed, 2) Do take a deep breath, 3) Imagine scenes or met someone who can share about his condition, 4) Use all five senses to feel the sensation.*

Discussion: The implementation of guided imagery basically using the same principle. The number and time in this therapy are not known with certainly.

Conclusion: *Implementation of guided imagery that is conducted for reducing depression consists of several steps.*

Keywords: *Guided imagery, complementary therapy, depression*

BACKGROUND

The prevalence of mental emotional disorders is an increasing, one of the disorders is depression. Copen (1994) assert depression is estimated to be the first cause of morbidity in the future. level (Apóstolo & Kolcaba, 2009). According to World Health Organization (2012) more than 350 million people suffering from depression, it indicates about 5% of people in the world suffering from depression. In Indonesia, the prevalence of mental disorders emotional reach 6.0% of 37 728 people (Riskesdas, 2013).

Depression is a condition in which a person experiences mood swings characterized by a feeling of sadness, sleep disorder patterns, a loss of interest in usual activities, worthless (Townsend, 2013).

Depression has an impact on the lives of individuals, families, social, and economic. Therefore, necessary to overcome a treatment. Treatment can be conducted to deal with depression in the form of pharmacological and non-pharmacological. Non-pharmacological treatment has been shown to be applied to individuals or groups that focus on restructuring the mind, training skills, stress management, and the development of social support. This treatment is known as alternative or complementary medicine.

Currently complementary or alternative medicine becomes an important part in the health service. Nurses as health professionals have an important role in developing a complementary therapy in nursing. One of the complementary therapies is being developed in nursing is guided imagery.

Guided imagery is a cognitive therapy developed to teach patients to use their own imagination to bring a positive influence in depression. Rossman (2000) explained guided imagery uses all of senses such as sight, sound, smell, taste, and touch to change positive mind or responses (Elsegood & Wongpakaran, 2012). Synder said (2006) guided imagery has been a standard therapy to reduce anxiety, provide relaxation, reducing the pain, insomnia, prevent allergic reactions, as well as lowering blood pressure.

Guided imagery has a proving for improving psychological or physiological states with younger adults (Eller, 1999). She concluded, "There is preliminary evidence for the effectiveness of guided imagery, particularly in the management of stress, anxiety, and depression, and the reduction of blood pressure, pain and side effects of chemotherapy" (p. 78). In addition, Sloman (2002) found that guided imagery (GI) was effective in improving mood states in individuals with a variety of illnesses. Sloman (2002) conducted a community-based nursing study in 56 people with advanced cancer. Progressive muscle relaxation and GI training revealed significant decreases in depression. Moreover, Campbell-Gillies (2004) used a program including positif mental images and music with 45 women with breast cancer. Her findings revealed that GI decreased depression and anxiety over a six-cycle period of chemotherapy.

OBJECTIVE

The purpose of this study describes the implementation of guided imagery therapy by nurse for decreasing depression.

METHODS

The method used in this study was collected and analyzed 6 articles about guided imagery. The articles were collected through electronic database ProQuest and EBSCO. No limitation the time periode was applied to the search. The following search terms were used guided imagery and depression.

RESULTS

The implementation of guided imagery scripts was informed by the existing literature. Based on research that conducted by Apóstolo and Kolcaba (2009) revealed several steps in the implementation of guided imagery therapy include Nurses make the script in the form of a CD with a duration of 21 minutes. In the CD nurse asks the patient to: (1) Do take a deep breath using the abdomen and diaphragm, (2) Do progressive muscle exercises, (3) Imagine a pleasant and relaxing as the sights, feel the smells and sounds of nature to stimulate the sense, (4) Imagine meeting someone who can share about his condition, (5) Nurse creates a pleasant atmosphere of the room.

The guided imagery therapy were demonstrated by Apóstolo and Kolcaba (2009) once per day for 10 days with 30 psychiatric inpatients, while 30 controls received treatment as usual. The patients receiving guided imagery demonstrated significant improvements in depression, anxiety, stress, and comfort.

Furthermore, Elsegood and Wongpakaran (2012) applied guided imagery therapy where nurses make the script in the form of a CD with a duration of 10-20 minutes which features the voices of nurses and sounds that have been become a pleasant scene for example voice beach, music. The CD contains some guidelines include: (1) The patient is asked to breathe in slowly and release tension, (2) The patient was asked to imagine a pleasant scene for example a beautiful beach with using all their senses as if it were on the scene, (3) Patients were asked to use their imagination to relieve tension for example take a deep breath to relieve muscle tension.

The result study by Menzies, Lyon, Elswick, McCain, and Gray (2014) showed that the application of guided imagery therapy consist of nurses prepared three CDs. Each CD lasts 20 minutes. The first CD patients are guided to do relaxation and unwind and performed at least once a day during the first two weeks. The second CD contains the instructions that the patient was asked to imagine a pleasant thing. In the nice thing is the patient is asked to involve all sensory functions. Patients were asked to use a second CD of at least one day during the second fortnight. The third CD contains a guide in which the patient was asked to imagine their immune system. The guidelines suggest that patients every body's immune system has a mission to improve health. Patients were asked to use a third CD at least once a day for two weeks in the fifth and sixth weeks. To evaluate the feelings of patients after therapy, the nurse asks the patient to express his feelings in a log book. Menzies and colleagues (2014) claimed woman diagnosed with fibromyalgia (N = 72) participated in a 10-week, reporter reported statistically significant increases in self-efficacy and statistically significant decreases in stress, fatigue, pain, and depression.

Some of results of these studies it can be concluded that the implementation of the therapy by nurses for reducing depression consists of several stages such as Nurses make the script on the CD that contains steps guided imagery therapy, nature sounds and music recorded with a duration about 10-20 minutes. Nurse creates a pleasant atmosphere and quiet. Patients were asked to listen on CD that contains several instructions including: (1) Patients were asked to the position comfortable and relaxed, (2) Patients do take a deep breath, (3) Nurse told the patient to imagine scenes like landscapes, beach, or met someone

who can share about his condition, (4) Patients use all five senses to feel the sensation of what they see, hear, smell, and touch on the pleasant situation.

DISCUSSION

Implementation of guided imagery to reduce depression based on some research basically using the same principle. The principle is a nurse using a CD that contains the instructions for the patient to imagine the scene that is considered pleasant. at the time of treatment the patient is asked to relax, comfortable, and releases tension. all five senses involved to feel things that give pleasure. So all the things that are disturbing both physically and psychologically can be routed through this therapy. On the other hand, the effectiveness of the number and time in this therapy for reducing the symptoms of depression are not known with certainly. The number and time in guided therapy customize each individual.

CONCLUSION

This study described the steps of implementation in guided imagery therapy to patients with depression are conducted by nurses with a duration about 10-20 minutes where therapy is applied at least once a day.

REFERENCES

- Apóstolo, J.L.A & Kolcaba, K. (2009). The effects of guided imagery on comfort, depression, anxiety, and stress of psychiatric inpatients with depressive disorders. *Archives of Psychiatric Nursing*, 23(6), 403–411. doi:10.1016/j.apnu.2008.12.003
- Campbell-Gillies, L. (2004). Guided imagery as treatment for anxiety and depression in breast cancer patients: A pilot study [On line]. A dissertation submitted in partial fulfilment of the requirements for the degree of M.A. Psychology. Rand Afrikaans University. Retrieved August 8, 2007. Available <http://etd.rau.ac.za/theses/available/etd-10062004-095533/restricted/GIreviseddissert2003130304.pdf>.
- Elsegood, K.J & Wongpakaran, N. (2012).The Effects of guided imagery on affect, Cognition, and pain in older adults in residential care: A randomized controlled study from Thailand. *Research in Gerontological Nursing*. 5(2), 114-122. doi:10.3928/19404921-20110706-02
- Eller, L.S. (1999). Guided imagery interventions for symptom management. *Annual Review of Nursing Research*, 17, 57-84.
- Menzies, V., Lyon, D.E., Elswick, R.K., McCain, N.L & Gray, D.P. (2014). Effects of guided imagery on biobehavioral factors in women with fibromyalgia. *J Behav Med*, 37, 70–80. DOI 10.1007/s10865-012-9464-7
- Riskesdas (2013). Kesehatan Jiwa: Gangguan Mental Emosional
- Snyder, M., & Lindquist, R. (2002). *Complementary/alternative therapies in nursing (4th ed)*. New York: Springer publishing company
- Sloman, R. (2002). Relaxation and imagery for anxiety and depression control in community patients with advanced cancer. *Cancer Nursing*, 25(6), 432–435

- Towsend, M. C., (2013). *Psychiatric Mental Health Nursing: Concepts of Care in Evidence-Based Practice. 6th Ed.* Philadelphia: F.A Davis Company.
- WHO (2012). Media Centre: Depression. Retrieved from <http://www.who.int/mediacentre/factsheets/fs369/en/>

MOTHERS' KNOWLEDGE, ATTITUDE, AND PRACTICE ABOUT UNHEALTHY SNACK AMONG SCHOOL AGED CHILDREN

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ABSTRACT

Background: *Unhealthy snack defines as unhygiene and unsafety food to consume. It is contained some hazardous chemicals. Mother is a person who will teach the children about snack choices.*

Objectives: *The purpose of this study was to know mothers's knowledge, attitude and practice about unhealthy snack for School Aged Children in Meteseh Elementary School, Semarang.*

Methods: *The method of this study was quantitative with surveyed design. The sample was 217 respondents and took by quota sampling tehnikue.*

Results: *The result of this study showed that 164 respondent (75,6%) had good knowledge about unhealthy snack, 113 respondent (52,1%) had positive attitude to avoid unhealthy snack which was not good for School Aged Children and 121 respondent (55,8%) had a positive behaviour about unhealthy snack for School Aged Children.*

Conclusion: *The conclusion is most of mothers have good knowledge, attitude and practice about unhealthy snack for School Aged Children. But, there are many mothers who have less knowledge, negative attitudes and behaviors of unhealthy snacks among respondents. From this result, studyer expects that mothers should look for information from the health professionals, internet, or media to increase knowledge, show positive attitude and behavior that can reduce the habit of eating unhealthy snacks in their children.*

Key word : *Mothers's knowledge, Unhealthy snack, School aged children.*

BACKGROUND

Unhealthy snacks are the snacks that unhygienic, unsafe for consumption and contained harmful chemicals substances such as preservatives (for example: Formalin and Borak), artificial colorings (eg: Rodhamin B, Methanil Yellow and Amarant), artificial sweeteners (for example: Saccharin and Cyclamate), and Flavor Seasonings (eg: Monosodium Glutamate) (Cahanar & Suhanda, 2006). Snacks are usually sold by the seller hawker in public places or mostly sold on the roadside without considering its cleanliness and safety of these foods (Aprilia, 2011).

Most of the kids in school like snacks sold by the seller in the school environment and they say that these snacks are tasty and the price is cheap. They do not think about the dangers of the substances contained in the food or drink (Sukatmi & Firsada, 2012). Besides containing harmful substances, the unhealthy snacks are also unhygienic. The snacks are in open place, and seemed a lot of flies around the food vendors (Sholikhah & Sustini, 2013).

Study conducted by Puspitasari (2013) entitled "The quality of students in elementary school snacks" showed that there were 6 samples of foods and beverages in elementary school in the city of Medan Singamangaraja contained bacteria that sold around the school and at the roadside. Snack consumption habits in children takes apart in fulfilling the energy and nutrient adequacy of children (Syafitri, Syarief, & Baliwati, 2009).

Some Issues related to the consumption of unhealthy snacks in school age children are the danger of snack consumption that contained harmful chemicals (BPOM RI, 2007). A Study conducted by (Noriko et al., 2011) with the title "A case study of the artificial colorings, artificial sweeteners and formaldehyde in children snacks in Telaga Murni Elementary school Bekasi" states that there are formaldehyde content, dyes and artificial sweeteners in snacks around the school with the dangers that can caused diarrhea, allergies, respiratory disorders and cancer. Children usually prefer snack when they get hungry to the appetite (Sulistyanto & Sulchan, 2010). Therefore, it needs the parents' role to children by preparing lunch box in order to avoid the habit of eating unhealthy snacks consumed by children (Muaris, 2006).

Snack consumption habits in children are influenced by knowledge of the parents. A mother must have extensive knowledge about the nutritional needs, so that the mother can choose and deliver the best food to their children. Therefore, the role of a mother is very important in giving direction to the child when choosing snacks that are clean, healthy, safe and high-nutrition (Handayani, 2009). In addition, the role of a mother also needs to teach healthy eating habits by choosing high nutritional snacks and free of harmful substances (Muaris, 2006). Another Study conducted by Suci (2009) entitled "the description of pocket behavior of elementary school students in Jakarta," showed that the role of a parent is one of the determining factors for snack habits of elementary school children.

In addition to the mother's knowledge and attitudes also can affect the snack consumption habits of the children. The attitude of a mother is an important component that can affect the habit of eating snacks to children in choosing healthy snacks, hygienic and safe in the school environment (Rosa, 2011).

To reduce the unhealthy snacks to children, the mother should take a part by having breakfast with the family, preparing lunch box, reducing their pocket money and not allowing children to have snack at the break time (Rosa, 2011). A Study conducted by Sholikhah & Sustini (2013) showed that the teacher and the parents should take apart in monitoring the children about the child's habits of eating unhealthy snacks, especially in limiting the pocket money to their children.

The author had conducted preliminary studies in SDN Meteseh Semarang. Based on the interview on November 24th 2014, from six student's mother, four of them knew about the types of snacks which are not healthy but they did not know the contents. In addition, they also only knew the dangers of snacks such as cough and diarrhea as well as those are quite difficult to be monitored during the school day. While Two mothers already knew the content contained in the snacks and the dangers that can be caused from unhealthy snack. Most of mothers did not provide food to their children so that the children had a bad habit of eating snacks. In addition, Then there were four students revealed that snacks sold is easy to be

found and cheap, and they seemed not to care about the cleanliness and safety of these snacks. In addition, the parents did not provide food from home. Based on the observations at the school, there were many sellers with snacks consumed by the children outside the school gates and there are many children bought snacks such as cilok snacks, siomay, ice, sausage and other snacks at the breaks time.

OBJECTIVE

The objective of the study was to Identifying the description of knowledge, attitude and behavior of mothers about unhealthy snacks among school-aged children.

METHODS

This study used quantitative descriptive survey method. The population was mothers who have children of school age grade 1 to grade 5 in SDN Meteseh Semarang. The sampling technique used in this study was nonprobability quota sampling i.e sampling by determining a sample of the population that had certain characteristics to the number (quota) desired (Riyanto, 2011). Thus, the sample was 217 respondents. This study used 3 questionnaire consists of: questionnaires of knowledge about unhealthy snacks were 19 items, questionnaires of snacks unhealthy attitudes about 20 items, and questionnaires of treatment on unhealthy snacks were 20 items. Those questionnaires were tested its reliability using Chronbach's Alpha formula analysis that was equal to 0.898, the questionnaire attitudes was equal to 0.905 and the treatment questionnaire was equal to 0.904.

RESULTS

These results indicated that the majority of the demographic characteristics of respondents aged 36-45 years was 131 persons (60.4%), half of the respondents were high school graduates as many as 109 people (50.2%) and the majority of respondents were housewives as many as 174 people (80.2%).

Table 1
Frequency Distribution of Mothers' Knowledge, Attitudes, and Treatment About Unhealthy Snacks at SDN Meteseh Semarang June 2015 (n = 217)

| Variable | Frequency | Percentage (%) |
|------------------|------------|----------------|
| Knowledge | | |
| Good | 164 | 75,6 |
| Adequate | 46 | 21,2 |
| Poor | 7 | 3,2 |
| Total | 217 | 100 |
| Attitude | | |
| Supported | 113 | 52,1 |
| unsupported | 104 | 47,9 |
| Total | 217 | 100 |
| Behavior | | |
| Positive | 113 | 52,1 |
| Negative | 104 | 47,9 |
| Total | 217 | 100 |

The above table showed that most of respondents as many as 164 people (75.6%) had a good level of knowledge about unhealthy snacks in school age children. Most of them were 113 people (52.1%) had the attitude to support that unhealthy snacks was not good for consumption of school-age children. While 121 people (55.8%) had a positive behavior on unhealthy snacks.

DISCUSSION

Based on the study, it was found that the mother's knowledge about unhealthy snacks in school age children showed that 164 people (75.6%) of respondents had good knowledge. But there were mothers who had less knowledge of 7 people (3.2%). It can be influenced by the education level. The Mother's knowledge, supported by an adequate education, will instill habits and the use of foodstuffs as well as mothers who have extensive knowledge of unhealthy snacks, it can provide a healthy and nutritious food for children (Machfoedz and Suryani, 2007). In addition, the resources can also affect the lack of mother's knowledge. Some sources of information such as radio, television, magazines, newspapers and books give a significant impact on a person's level of knowledge. The existence of information captured by the mother gives new knowledge related to unhealthy snacks (Notoatmodjo, 2007). The occupation also can be a factor that affects the mothers' knowledge. The working mothers do not mean that their knowledge about unhealthy snacks is poor. This can be due to business, so they have less information and insights on unhealthy snacks (Sari, 2014).

According to Notoatmodjo (2003), the better knowledge of the mother, the more healthy snacks behavior. But the mother's knowledge is not an absolute influence on the child's habit of eating snacks. Environmental factors, parents, peers, the variety of food at home which close to the hawker center can affect the child's habit of eating snacks. The results are in line with a study conducted by Sari (2014) about the level of knowledge of mothers about healthy food for preschool children showed that the mothers' knowledge who has less information about healthy and unhealthy foods lead to children susceptible to diseases due to unhealthy food consumed by children.

The statements of the respondent about the food additives added to food as much as 78 respondents (35.9%) were incorrectly. Borax is one of the food additive that used for food preservatives and get a form of silly putty. Borax is usually used as a fungicide, herbicide and insecticide commonly used as a preservative and silly putty form such as meatballs, rice cakes and noodles. Borax has some dangers caused disturbances in the brain, liver and kidney fat (Widyaningsih & Murtini, 2006).

The Results of this study on the question item about the danger showed using MSG (micin) of 92 respondents (42.4%) answered incorrectly. MSG (monosodium glutamate) is one of the added food ingredient that can give flavor and aroma to the food. Flavoring has several purposes, makes the food taste becomes more distinctive taste (Cahyadi, 2008). The impact of the use of MSG is allergies such as itching, red spots on the skin, nausea, vomiting, headache and migraine (Nurheti, 2007).

The study Results on questions about the item from consuming unhealthy foods (containing a food additive) in a short period of time as much as 29 (13.4%) answered incorrectly and statements from consuming unhealthy foods in the long term as much as 35 (16.1%) answered incorrectly too. Food additives can be accumulated in the human body and is carsiogenik that in the long term can lead to diseases such as cancer and tumors in organs of the human body. The Effect of short-term use of food additives cause symptoms that is very common like nausea, dizziness dam (Indonesia Nutrion Network, 2004).

In the questionnaire of treatment items to reduce the habit of eating snacks as much as 217 respondents (100%) answered correctly. Some Efforts that should be made to reduce the snack habits in children as early as possible which gives explanations on issues regarding children healthy snacks and unhealthy, familiarize the whole family to have breakfast together, provide the children to bring lunch from home and get children to save their pocket money (Nuraini, 2007).

While At the questionnaire of how to choose healthy foods, the majority of respondents as many as 216 respondents (99.5%) answered correctly. Some Ways that need to be considered when buying food that are at the cleanliness and hygiene of selling places and people who sell, pay attention to the physical quality of the product (freshness of the ingredients, which do not smell rancid aroma and the color is not striking), and pay attention the low price offered that may be materials used instead of the original material but a mixture that can cause disease (Nuraini, 2007).

The results showed that many as 113 respondents (52.1%) addressed the supported attitudes to unhealthy snacks for school-age children and there were 104 people (47.9%) showed an unsupported. Based on the study, the entire questionnaires addressed to the respondents were more supportive that was about the earliest possible statement items need to familiarized explanation of a healthy diet to children 171 respondents (78.2%) agreed to it, and the questionnaires of the parents that they should be the role models for healthy foods habits were 156 respondents (71.9%) stated strongly agree. One of the effort that can be done to reduce the snack habits in children as early as possible was explaining to children about healthy snacks and unhealthy. Thus, they already have knowledge of the allowance that may be purchased and should not be purchased. In addition, the effort to familiarize the whole family to eat healthy snacks both at home and outside so that children get used to the habits adopted by parents and family members (Nuraini, 2007).

The results on the questionnaires about the need to familiarize breakfast and bring lunch for the children as many as 135 respondents (62.2%) stated strongly agree. Bringing food supplies is one way to meet the nutritional needs of children and avoid children not to consume unhealthy snacks at school because it is very risky to be contaminated by microorganisms that can harm health (Februhartanty & Iswaranti., 2004). In addition, a full breakfast is also very important to meet the required energy sufficiency in conducting activities and also is very influential for the development and learning of children at school (Moehji, 2003). The results are consistent with a study conducted by Olindima, Nabuasa and Limbu (2012) about the relationship of mothers' knowledge and attitudes

providing breakfast habits in elementary school children showed that there were many positive attitude habit of giving breakfast for elementary school children as many as 51 people (63.8%).

The results showed that there were 121 respondents (55.8%) addressed a positive behavior on unhealthy snacks and there were 96 people (44.2%) showed a negative behavior on unhealthy snacks in school age children. Some Factors that affect the positive and negative behavior of mothers are age, the longer the mother who lives the better their treatment and the older of the mother, the more mature to give direction to their children about unhealthy snacks, so their snack habits can be reduced (Hurlock, 2002). In addition, income factors may also affect the mother's treatment on unhealthy snacks. A good level of income allows families to meet their needs. The income level of the parents is very influential on the mother behavior in reducing snack habits to children. The Higher socio-economic families will be easier to meet a healthy and nutritious food compared with less socio-economic families (Notoatmodjo, 2003).

Study conducted by Sukatmi and Firsada (2012) about the relationship of mothers' knowledge about snacks containing harmful chemicals with the behavior of the child allowance showed that the behavior of the child allowance is influenced by several things because the majority of mothers who do not work (housewives) as many as 30 respondents (63.8%). Housewives have a lot of time at home so they have many times to pay attention to their children's behavior. Therefore, most of the mothers who have a positive behavior on unhealthy snacks were housewives.

The study Results of the questionnaire item about providing bag lunches to school as much as 104 respondents (47.9%) answered rarely. The bag lunch is the food menu in the form of rice and side dishes in practical packaging and provided to be consumed outside the home. Snack habits of children can be reduced by familiarizing kids to have breakfast and bring lunch to school (Muaris, 2009). A study conducted by Anzarkusuma et. al. (2014) entitled "nutritional status based on diet elementary school children in Rajeg Tangerang District " showed that the majority of children which do not bring lunch was 79.0% and only 21% who bring lunch to school.

The Results of the study on the questionnaires about making the children eating schedule as many as 48 respondents (22.1%) said that they did not do it. The preparation of the food menu besides considering the components of nutrients, it must also consider the food variation so that children do not get bored, either from the appearance, texture, aroma color, large portions and maintenance of attractive cutlery. In preparing the menu, the children eating schedule must be considered. The Application of a regular eating schedule is very important. It will make the children experience the eating time. If the discipline is embedded in children, when mealtime comes, they will no longer deny to eat (Wanuwu, 2014). In the questionnaire items in distracting the children by getting to play when they wanted to buy snacks as much as 66 respondents (30.4%) answered rarely. Parents should be able to adjust the strategy in reducing snacks to children that is the mother should be good at distracting the children from the outside food to the homemade food like pudding. Also, a mother must be able to anticipate by adding

a schedule of children activities which can be more beneficial to children and invite them to play (Fajriyah and Rahmawati, 2014).

CONCLUSION

It can be concluded that the majority of mothers have a good knowledge and attitudes which support that school-age children are not allowed to consume unhealthy snacks. Then, mothers possess a positive behavior on unhealthy snacks in school age children.

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REFERENCES

- Anzarkusuma, I. S., Mulyani, E. Y., Jus'at, I, & Angkasa, D. (2014). Status gizi berdasarkan pola makan anak sekolah dasar di Kecamatan Rajeg Tangerang. *Indonesian Jurnal of Human Nutrition*.1(2):135–48.
- Aprillia, B. A. (2011). Faktor yang berhubungan dengan pemilihan makanan jajanan pada anak sekolah dasar. *Skripsi*: Diponegoro University.
- Azwar, S. (2007). *Sikap manusia: Teori dan pengukurannya*. Yogyakarta: Pustaka Pelajar Offset.
- BPOM RI. (2007). *Kamanan Pangan*. <http://perpustakaan.pom.go.id/>. [Accessed November 5, 2014].
- Cahanar,P, & Suhandi, I. (2006). *Makan sehat hidup sehat*. Jakarta: PT Kompas Media Nusantara.
- Cahyadi, W. (2008). *Analisis dan aspek kesehatan bahan tambahan makanan*. Jakarta: Bumi Aksara.
- Fajriyah, N, & Rahmawati, S. (2014). Peran orang tua dalam mengawasi jajanan dan gizi anak. *Skripsi*: Muhammadiyah Surakarta University.
- Febrihartanty dan Iswaranti. (2004). Amankah makanan jajanan anak sekolah Di indonesia. *Indonesia Nutrion Network*. <http://www.gizi.depkes.go.id/>. [Accessed Jun 17, 2015].
- Handayani, N. (2009). Peran orang tua, sekolah, dan pedagang pada makanan jajanan anak. *Skripsi Universitas Dharmawangsa*. 19, 110-123. <http://isjd.pdii.lipi.go.id/>. [Accessed Jan 3, 2015]
- Hurlock, E. B. (2002). *Psikologi perkembangan :Suatu pendekatan sepanjang rentang kehidupan*. Surabaya: Erlangga.
- Indonesia Nutrion Network. (2004). Upaya perlindungan kesehatan dan gizi anak sekolah . <http://www.gizi.depkes.go.id/arsip/arc6-2004.html>. [Accessed Jun 17, 2015].
- Machfoedz, I, & Suryani, E. (2007). *Pendidikan kesehatan bagian dari promosi kesehatan*. Yogyakarta: Fitramaya.
- Moehji, S. (2003). *Ilmu gizi: penanggulangan gizi buruk*. Jakarta: Bharata Niaga Media.
- Muaris, H. (2006). *Bekal sekolah untuk anak balita*. Jakarta: PT Gramedia Pustaka Utama.

- Noriko, N., Pratiwi, E., Yulita, A., & Elfidasari, D. (2011). Studi kasus terhadap zat pewarna, pemanis buatan dan formalin pada jajanan anak di SDN Telaga Murni 03 dan Tambun 04 Kabupaten Bekasi. *Jurnal Al-Azhar Indonesia Seri Sains dan Teknologi*. 1(2), 47–53.
- Notoatmodjo, S. (2007). *Promosi kesehatan dan ilmu perilaku*. Jakarta: Rineka Cipta.
- Notoatmodjo, S. (2003). *Pendidikan dan perilaku kesehatan*. Jakarta: Rineka Cipta.
- Notoatmodjo, S. (2007). *Kesehatan masyarakat ilmu dan seni*. Jakarta: PT Rineka Cipta.
- Nuraini, H. (2007). *Memilih dan membuat jajanan anak yang sehat dan halal*. Jakarta: Qultum Media.
- Nurheti, Y. (2007). *Awas bahaya dibalik lezatnya makanan*. Yogyakarta: Andi.
- Olindima, D, N., Nabuasa, E., & Limbu, R. (2012). Hubungan pengetahuan dan sikap ibu dengan kebiasaan memberikan sarapan pada anak sekolah dasar di Kelurahan Maulafa Kecamatan Maulafa Kota Kupang Tahun 2011. *Jurnal MKM*. 6(2).
- Puspitasari, R.L. (2013). Kualitas jajanan siswa di sekolah dasar. *Jurnal Al-Azhar Indonesia Seri Sains dan Teknol*, 2(1), 52–6.
- Riyanto, A. (2011). *Aplikasi metodologi penelitian kesehatan*. Yogyakarta: Nuha Medika.
- Rosa, R. (2011). Pengetahuan gizi dan keamanan pangan jajanan serta kebiasaan jajan siswa sekolah dasar di Depok dan Sukabumi. *Skripsi*: Institut Pertanian Bogor. <http://repository.ipb.ac.id/>. [Accessed Desember 13, 2015]
- Sari, E. (2014). Gambaran tingkat pengetahuan ibu tentang makanan sehat untuk anak prasekolah di taman kanak-kanak bahagia Suarabaya. *Jurnal Stikes William Booth*. 1(3), 28-33.
- Sholikhah, H. H., & Sustini, F. (2013). Description of clean and healthy behavior of food borne disease among by School Children Age in Babat Jerawat. *Jurnal Buletin Penelitian Sistem Kesehatan*, (17), 351–62.
- Suci, E. S. T. (2009). Gambaran perilaku jajan murid sekolah dasar di jakarta. *Jurnal Psikobuana*. 1(1), 29–38.
- Sukatmi & Firsada, M. (2012). Hubungan pengetahuan ibu tentang jajanan yang mengandung zat kimia berbahaya dengan perilaku jajan anak. *Jurnal AKP*, 6(1).
- Sulistyanto, J., & Sulchan, M. (2010). Kontribusi makanan jajanan terhadap tingkat kecukupan energi dan protein serta status gizi dalam kaitannya dengan prestasi belajar. *Jurnal Media Medika Muda*. (4), 31–8.
- Syafitri, Y., Syarief, H., & Baliwati, Y. F. (2009). Kebiasaan jajan siswa sekolah dasar (Studi kasus di SDN Lawanggingtung 01 Kota Bogor). *Jurnal Gizi dan Pangan*. 4(3), 167–74.
- Wanuwu, M. (2014). Pengaruh bimbingan penyusunan menu balita dengan metode ceramah dan permainan terhadap pengetahuan ibu di kecamatan Medan Belawa. *Skripsi*: Sumatera Utara University.
- Widyaningsih & Murtini. (2006). *Alternatif pengganti boraks pada produk pangan*. Jakarta: Trubus Agrisarana.

THE EFFECT OF SPIRITUAL EMOTIONAL FREEDOM TECHNIQUE (SEFT) FOR SMOKING INTENSITY ON STUDENTS OF SMAN 5 KEDIRI 2015

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ABSTRACT

Background: Smoking is an activity that causes a lot of health problems. Spiritual Emotional Freedom Technique (SEFT) allegedly can be used as complementary therapy for reduce smoking intensity. SEFT is a merger between Spiritual Power and Emotional Freedom Technique (EFT) by tapping on the 18 key points along the body's 12 energy pathways.

Purpose: This study aimed to determine the effect of Spiritual Emotional Freedom Technique (SEFT) on smoking intensity at students of SMAN 5 Kediri City in 2015.

Method: The method used was a pre-experimental, with a pretest and posttest design. In this study, respondents were grouped into one group intervention (n=14). In this group performed pretest to determine the level of smoking intensity, the intervention group was given nine SEFT therapy sessions, within three weeks, each session is given SEFT therapy for 20 minutes. At the end of the third week performed post-test in this group.

Result: In this study it was found that the average mean pretest in this group showed mild smoking intensity. In the posttest, intervention group shows reduction of mild smoking intensity became light smoking intensity (50%). By Wilcoxon test obtained, the p value of smoking intensity $0.003 < 0.05$ so that there is a significant difference between the pretest and post-test of smoking intensity.

Conclusion: It can be concluded that SEFT reduce smoking intensity at students of SMAN 5 Kediri City in 2015. SEFT therefore can be used as complementary therapy in nursing for reduce smoking intensity. From the results of these studies suggested to the smoker to do SEFT therapy to reduce the intensity of smoking.

Keywords: Intensity Smoking, Therapy SEFT, Students

INTRODUCTION

Smoking is toxic objects that give a relaxing effect and suggestion feel more manly (Mulyadi, 2010). Smoking tobacco is burned and then inhaled the smoke, using either cigarettes or pipes (Sitepu, 2000).

The number of smokers in the world in 2005 is estimated at 1.6 billion, while the number of smokers has reached 1.3 billion. Approximately 22% of women in industrialized countries are smokers, where the figure is estimated to reach 9% in countries with the highest rate of tobacco consumption in the world. The use of tobacco in Indonesia is growing very fast. Indicated increased desire to smoke at a young age, especially in the population of 5-19 years. High smoking prevalence between the ages of 15-19 years (Center for Public Communication, Secretariat General of the Ministry of Health, 2008).

Data National Riskesdas 2013 states that 64.9% of men and 2.1% of women in Indonesia are smokers (Kompas 2013). The population of Indonesia who

smoked more than 30% of Indonesia's population smokes, that means in our country about 60 million smokers.

Approximately 70% of Indonesian smokers started before the age of 19 years old habit, because accustomed to seeing family members who smoke. The 2004 data also show that the majority (84%) of Indonesian smokers who smoke every day turned out to suck 1-12 cigarettes per day, and 14% smoked 13-24 cigarettes per day number. Smokers 25 cigarettes a day just 1.4% only.

Data from the WHO said, Indonesia was named the country with the largest number 3 cigarette consumption after China and India and Russia and the United States above. In fact, of the total population, Indonesia is in the 4th position after China, India and the United States. In contrast to the number of American smokers are likely to decline, the number of Indonesian smokers actually increased in the last 9 years. The prevalence of smokers by age and gender in the age group 15 years and above reached 36.3%. This prevalence groups including children and adolescents aged 15 to 18 years (Kompas, 2013).

Prevalence of Smoker and Average Number of cigarettes smoked Population Age 10 Years and Over by Respondent Characteristics Riskesdas 2013 were age 10-14 years 1.4% with a total of 12 cigarettes / day, aged 15 years and above 36.3% with a total of 12 cigarettes / day, 33.4% aged 30-34 years with a number of 14 cigarettes / day. (Riskesdas, 2013).

Based on Health Research Report Year 2010 East Java province, the percentage of daily smokers aged 5-18 years with the characteristics as much as 22% are active smokers (due 2012). In Kediri of the results of research conducted in 2007 showed Riskesdas adolescents aged 12-18 years as many as 44.7% are active smokers, while in the town of Kediri itself to the characteristics of the same age showed 36.1% were current smokers (Riskesdas, 2007).

In the initial survey conducted by researchers at SMAN 05 of Kediri on 06 January 2015 found that 4 out of 10 students with active smokers. A survey conducted by the Institute Tackling Problems Smoking (LM3) states that of the 375 respondents, 66.2% had tried to quit smoking but they failed. There are various kinds of failures; 42.9% do not know how; Difficulty concentrating 25.7%, and 2.9% are bound by the sponsor of cigarettes (Fawzani and Triratnawati, 2005). Recent data based on the results of a survey conducted by the Institute and Faculty of Economics, University Modernisator Trisakti indicate if 31.3% of students to be smokers, of which 20.6% of them are active smokers and 10.7% said they had smoked (Kompas, 2013).

Smoking raises very little positive impact on health. Graham (in Ogden, 2000) states that the smoke can result in a positive mood and can help individuals deal with the circumstances - difficult circumstances. Graham also mentioned the advantages of smoking, especially for smokers that reduces tension, helps to concentrate and fun. While the negative impact caused devastating for health, but it can cause a disease that can lead to death.

Various types of diseases that can be caused by smoking, starting from the head disease to cardiovascular disease, cancer, respiratory, lower fertility (fertility) and sexual appetite, stomach ulcers, vascular disorders, and cause indoor air pollution, causing irritation of the eyes, nose and throat. Statistical data in 2002 shows that 90% of deaths due to respiratory problems, 25% of deaths due

to coronary heart disease and 75% of deaths caused by disease emphysema. All the deaths were triggered by smoking (Husaini, 2007).

One possibility therapeutic techniques can help to reduce smoking is SEFT (Spiritual Emotional Freedom Technique). SEFT is a combination of various methods. SEFT method is done by tapping on the 18 key points along the body's energy pathways 12.

Based on the description of the background described above, researchers interested in conducting research on "Effective Methods of Spiritual Emotional Freedom Technique (SEFT) Decline Against Smoking Intensity Students of SMAN 5 Kediri City in 2015.

The purpose of this study was to determine the effect of therapy SEFT to the intensity of smoking in students of SMAN 5 Kediri City in 2015.

METHODS

The method used is pre experiment with one group pretest posttest design. Intensity SEFT smoking before therapy and after therapy measured SEFT for 9 sessions within 3 weeks, which each session takes 20 minutes and smoking intensity was measured again. Sampling is done by simple random sampling with a sample of 14 people. Data were analyzed using the Wilcoxon test.

RESULTS

Based on the results, the intensity of smoking in students before to therapy SEFT

| Level | Frekuensi | (%) |
|--------------|-----------|------|
| Do not Smoke | 0 | 0 |
| Light | 3 | 21,4 |
| Medium | 10 | 71,4 |
| Weight | 1 | 7,1 |
| Total | 14 | 100% |

(Source: Primary data research 2015)

Based on the table above can be interpreted that the majority of respondents were smokers were as many as 10 respondents (71.4%) of the total 14 respondents. Smoking intensity experienced by smokers is caused by the influence of peers and family.

After the characteristics of smoking in students Therapy Forum SEFT

| Level | Frekuensi | (%) |
|--------------|-----------|------|
| Do not Smoke | 2 | 14,3 |
| Light | 7 | 50,0 |
| Medium | 5 | 35,7 |
| Weight | 0 | 0 |
| Total | 14 | 100% |

(Source: Primary data research 2015)

Based on the table above can be interpreted in that light smokers by half the respondents as many as seven respondents (50.0%) of the total 14 respondents after SEFT therapy.

Cross-tabulation frequency of smoking before and after the therapy SEFT.

| | Before | | After | |
|-----------------|--------|------|-------|------|
| | (f) | % | (f) | % |
| Do not Smoke | 0 | 0 | 2 | 14,3 |
| Light | 3 | 21,4 | 7 | 50,0 |
| Medium | 10 | 71,4 | 5 | 35,7 |
| Weight | 1 | 7,1 | 0 | 0 |
| Total | 14 | 100 | 14 | 100 |
| p value = 0,003 | | | | |
| $\alpha=0.05$ | | | | |

(Source: Primary data research 2015)

Based on the above table shows that prior to therapy with frequency SEFT smokers were as many as 10 respondents (71.4%) and after therapy with the frequency of light smokers SEFT by 7 respondents (50.0%).

Based on statistical test calculation using the formula Wilcoxon test showed that the p value = 0,003 < $\alpha = 0.05$, the H_a H_0 accepted and rejected. With the sense that there SEFT therapeutic effect on the intensity of smoking in students of SMAN 5 Kediri 2015.

DISCUSSION

Based on the results of the study, from 14 respondents Students SMAN 5 Kediri in 2015, before to therapy SEFT there are 3 respondents (21.4%) with light smokers, moderate smokers 10 respondents (71.4%) and 1 respondent with heavy smokers (7, 1%). Whereas after therapy SEFT smoking intensity changes are of 14 respondents there were two respondents (14.3%) do not smoke, 7 respondents (50.0%) with light smokers and 5 respondents (35.7%) with moderate smokers. At the Wilcoxon test statistics, obtained intensity of smoking before and after therapy SEFT is p value = 0.003. This means that H_0 is rejected and H_a accepted which means no therapeutic effect on the intensity of smoking SEFT at SMAN 5 Kediri 2015.

The study fits with previous research conducted by Komariah in 2012, that SEFT effective therapy to reduce smoking behavior of students. Students were given SEFT therapy decreased smoking behavior scale than students who are not given SEFT therapy.

SEFT therapy using techniques that are safe, easy, fast, and simple, even without risk, because it does not use a tool or needle. Only with the index finger and middle finger we were in a light tap at some point the body's meridians. Moreover, with the involvement of God in the process of energy psychology makes SEFT experience amplifying effect so that the spectrum of issues that could be addressed also much broader include physical and emotional, self success, happiness hearts and make the path to personal greatness (glory) (Zainuddin, AF, 2012).

By doing therapy Spiritual Emotional Freedom Technique (SEFT), emotional problems or physical problems experienced by a person, for example to the students to change the frequency of smoking then perceived to be reduced.

This is because the Spiritual Emotional Freedom Technique (SEFT) more emphasis on the element of spirituality (prayer) and the body's energy system by using the method of tapping on certain points on the body. In addition to the energy systems of the body there is also a relaxation method involving respondents confidence factor.

CONCLUSION

- Before to therapy *Spiritual Emotional Freedom Technique* (SEFT) most respondents SMAN 5 Kediri moderate-intensity smokers.
- After to therapy *Spiritual Emotional Freedom Technique* (SEFT) half the respondents SMAN 5 Kediri with intensitas light smokers.
- There is the influence of spiritual therapy Emotional Freedom Technique (SEFT) to the intensity of smoking in students of SMAN Kediri 2015.

REFERENCES

- Community Research and Development Agency. (2007). Reports Health Research (RISKESDAS) National Year 2007. Accessed from <http://www.kesehatan.kebumenkab.go.id> dated October 26, 2014.
- Husaini. (2008). Penance Smoking Secrets and How to Stop Smoking Emphatic. Depok: Library Liman.
- Lunar, L. (2012). Effectiveness Spiritual Emotional Freedom Technique (SEFT) To Reduce Smoking Behavior On Student. Faculty Of Psychology. Ahmad Dahlan University. Yogyakarta.
- Compass. (2013). Smoking Behavior Students in Jakarta Alarming. The download of <http://edukasi.kompas.com> on 17 May 2015.
- Compass, (2014). Once Again Say "No Selecting candidates Smoker". The download of <http://health.kompas.com> dated 17 May 2015
- Nursalam. (2008). Concept and Application of Nursing Research Methodology. Salemba Medika. Issue 2. Jakarta.
- Sittopou. (2000). Indonesian Cigarette specificity. Jakarta: Grasindo.
- Zainuddin, A.F. (2007). Spirtual Emotional Freedom Technique For Healing, Succes, Happines, Gretness. Jakarta: Ahmad Publising.
- Zainuddin, A.F. (2009). Spirtual Emotional Freedom Technique, Fastest and Easiest Way Overcoming Emotional Problems. Surabaya: Logos Publiser.

BENEFICIAL EFFECTS OF DOULA SUPPORT ON PREGNANCY

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ABSTRACT

Background: Doula is represented as an expert or professional trainer who provides continuous physical, emotional and informative support during labor and delivery. The role of Doula gives many positive benefits on birth.

Objective: The research aimed for analyzing the beneficial effect of Doula support as an essential component of childbirth.

Method: This is a research type of literature review which was designed with a randomize control trial study, compared the obstetrical and post partum outcome between Doula supported women and women without Doula support from 2 systematic review of RCT and 1 RCT article. The samples were pregnant women, women in labor, or women in the year after birth. Intervention was conducted by giving the participant non medical counseling and observation in one group and compare to another group who didn't receive it. The data was extracted from 3 articles which showed the benefits of Doula support.

Result: The participants showed the increasing of positive maternal perception both to themselves about labor, delivery and their infants (the experience of exclusive and initiation for breastfeeding). The obstetrical intervention reduced; and post partum depressions are decreased.

Discussion: The important of companion during pregnancy and childbirth are to minimize complication, unnecessary medical intervention, the gentle of pregnancy and delivery process.

Conclusion: The support from a minimally trained woman as a Doula during the pregnancy and labor significantly will raise welfare of woman and infant. Mother gets better self esteem about her delivery experience and the baby get better nutrition and bound from mother.

Keywords: Doula, Beneficial, Birth, Pregnant

BACKGROUND

The original words of the Doula comes from the Greek language relate to a lay woman who has experience and trained to support mother and her partner by giving continuous nonmedical physical, emotional, social, informational and practical support during pregnancy, delivery and transitional period for the family (Middleton, 2003) (Campbell, Scott, Klaus, & Falk, 2007). Doula concern on taking care, supporting and accompanying the pregnant woman. They are not health practitioners who giving medical suggestion, diagnose or clinical

procedure (Arnold, 2001) but fit to make a referral to medical professional service if maternal emergency situation occur. It is possible if a medical provider becomes a Doula. Nevertheless, she is prohibited to give a medical intervention when playing role as a Doula. In addition, Doula is holistic practices regarding the biological, psychological, social, cultural, and spiritual processes during pregnant and delivery. It is an important whole concept which sometimes being neglected by the health provider because of medical intervention distraction.

Complications during pregnancy are mostly because of lack of the mother knowledge about pregnancy. When delivery place are changed from home to clinic or hospital, many medical interventions were held and childbirth practice were altered (Kathryn D. Scoot, 1999). Continuous support during delivery process has become the exception rather than the norm. This condition will create the dehumanization of women's childbirth experiences (Hodnett, E, Gates S, Hofmeyr G, Sakala, 2003). Some women did not notice about this condition so that it can make psychological problem that may lead to physical frustration during labor. Unfortunately, most women who experiencing problems after birth do not ask any help to recover her condition (Lumley, Austin, & Mitchell, 2004). It may worsen the post partum stage, such as bleeding, depression nor post partum blues to mother.

A Doula is expected to be a companion who can educate and support mother physically and mentally as well. The bound between a Doula and mother could create the positive atmosphere to support the gentle labor process and transition phase to the childbearing. A nursing literature classifies the labor support into 4 values:

1. Emotional support behaviors (continuous presence, reassurance, encouragement, praise, humor, verbal distraction),
2. Physical/comfort behaviors (touch, massage, hygiene, ambulation, positioning, heat or cold application, environmental control),
3. Instructional/informational behaviors (role modeling behavior to partner, instruct/coach breathing, relaxation, instruct/coach pushing) and
4. Advocacy behaviors (listening, supporting women's decision, relate women's request visitors, negotiating women's request, respect client privacy) (Adams, 2004).

OBJECTIVE

This literature review's objective was to analyzing the beneficial effect of Doula support as an essential component of childbirth.

METHODS

The design of this research was literature review. Collected articles were article with randomize control study. In which the inclusion criteria:

1. Doula article with Randomize control trial study.
2. Population is pregnant woman
3. Intervention was conducted by giving the participant non medical counseling and observation
4. Compare the group with intervention to another group who didn't receive.
5. Outcome or Measured result is positive maternal perception increased, the obstetrical intervention reduced, post partum depression decreased.

Exclusion criteria were articles with unsuitable design study, indescribable intervention and sample. Critical appraisal was using The CASP UK Tools for systematic review article (Appraisal & Programme, 2006) and Randomize Control Trial (Guyatt GH, Sackett DL, 1994). Each CASP contained 10 critical questions for the article. The articles were collected using search engine such as Proquest, EBSCO and Google search engine with keywords Doula, beneficial, and randomize control trial. The Boolean operator was chosen with “OR” to expand the search result. Selection of article titles did not set any limits and filters including year’s limitations because of the limited research on Doula.

The collected data was extracted by classifying the data according to desired variables. Data synthetic was used to analyze the beneficial of Doula support on pregnancy, especially on what the most or the less benefits obtained by Doula support on pregnancy.

Table 1 Data extraction

| Research | Design | Population | Sample | Intervention | Outcome |
|--------------------------------|--------------------------|---|---|--|--|
| Della Campbell, et al. (2007) | RCT | 12.000 women | 1. 300 sample with Doula support 2. 300 sample without Doula support | The intervention consisted of two 2-hour classes taught to participants in the Doula group and their Doulas about the role and expectations of support provided by lay birth attendants to laboring women. | Result of this study is a positive association between doula support and patient satisfactory. |
| Judith Lumey, et al. (2004) | Systematic review of RCT | Pregnant women, in labor, women in the year after birth | 42 RCT. | Nonpharmaceutical and nonhormonal interventions to reduce postnatal depression | There is strong evidence that postnatal counseling interventions (all modalities tested), provided to women with depression or probable depression, by professionals from a variety of backgrounds after specific additional training, will reduce depressive symptoms and depression substantially, with an NNT (the number needed to Treat) of two to three. |
| Kathryn D Scott, et al. (1999) | Systematic review of RCT | Healthy, term, primigavido us, with | 12 RCT | Intervention for these trials was a trained laywoman, | Doula support reduces the need for obstetrical intervention and |

| Research | Design | Population | Sample | Intervention | Outcome |
|----------|--------|---------------------------------|--------|--|--------------------------------|
| | | normal pregnancy in early labor | | professional midwife or student midwife who provided continuous emotional, informational and non medical physical support to laboring women. | improves post partum outcomes. |

RESULTS

Study characteristic

The article searching process result on EBSCO and Proquest through first screening was 32 articles about Doula. After second screening, 2 systematic reviews and 1 RCT obtained. Those articles were the most eligible articles according to inclusion criteria.

- The participants showed a positive maternal perception increased both to themselves about labor (pain) and delivery and their infants (the experience of exclusive and initiation for breastfeeding).

| Maternal perception | Perception | Mother | | Perception | Infant | |
|---|--|--------|---------------|---|--------|---------------|
| | | No (%) | | | No (%) | |
| | | Doula | Standard care | | Doula | Standard care |
| Della Campbell, et al, 2007 doula (n=229), Standard care (n=265) | Describe labor as very easy* | 28% | 16% | Describes baby as very easy** | 40% | 22% |
| | Coped with labor very easy** | 37% | 20% | Would like to be away from baby more often* | 4% | 12% |
| | Birth experience very good** | 59% | 26% | Senses baby's need very well** | 47% | 28% |
| | Overall rating of birth experience very good** | 59% | 26% | Very happy having baby** | 91% | 78% |
| | | | | Very well managing the baby** | 44% | 29% |
| | | | | Becoming a mother has been very easy** | 25% | 15% |
| | | | | Breastfeeding exclusively | 51% | 29% |

*p < 0, 01; **p < 0,001

b. The obstetrical intervention reduced.

The obstetrical intervention that was reduced during childbirth was revealed by Hodnett and Zang, et al. The present of Doula as a supportive person who had no any relationship will reduce the labor duration, the use of forceps or vacuum. Scott et al revealed the reduction of analgesia needs reach about 36%, the need of oxytocin augmentation decreased to 71%, reduction in 56% for forceps need, 51% decreased in caesarian section (Kathryn D. Scoot, 1999). Mother with doula supported planned to ask anesthesia about 22% (n=229), while standard care 45% (n=265) with $p < 0,001$ (Campbell et al., 2007).

c. Post partum depression is decreased.

Post partum depression occurs when women are going through demanding physical and social changes and a major life transition. Consequently, those might emerge additional concerns about the possible negative impact of maternal depression on the relationship between mother and child and on the child's emotional, behavioral, and cognitive development, especially in the presence of any other morbidity (Lumley et al., 2004). Data obtained from *Judith Lumley* (Lumley et al., 2004) shows the best intervention that decreased the post partum depression are:

| Researcher | Intervention | Result (Doula Vs without Doula) | P Value |
|------------------|--|--|---------------------------------------|
| Shields 1997 | Introduction of midwife-managed care teams to increase continuity of care, responsible for antenatal, intrapartum, and postnatal care, compared with standard hospital maternity care. | EPDS ≥ 13 , at 7 weeks 71/426 vs 84/362 | P=0,001 |
| Mac Arthur | Midwife-led community postnatal care for 3 months after birth, following training in the use of symptom checklists and the Edinburgh Postnatal Depression Scale, to identify health needs, with evidence-based guidelines for the management of identified issues compared with routine postnatal care | EPDS ≥ 13 , difference (95% CI) 14.39% vs. 21.25%, | P<0,01 |
| Chabrol (B) 2002 | One counseling session integrating supportive, educational, and cognitive-behavioral components provided by one of five female Master's level psychology students, given didactic and clinical training, as well as weekly supervision. | <ul style="list-style-type: none"> • Hamilton Depression Rating Scale, mean score (10–12 wks), 5.4 (3.5) vs. 15.8 (4.6), • Beck Depression Inventory, mean score (10-13 weeks), 4.0 (2.9) vs. 15.3 (4.7) | <p>p<0,0001</p> <p>p<0,0001</p> |

| Researcher | Intervention | Result (Doula Vs without Doula) | P Value |
|---------------|---|-------------------------------------|---------|
| Onazaawa 2001 | Five 1-hour infant massage classes, with a trained instructor encouraging parents to observe and respond to their babies' body language and cues and adjust their touch accordingly, plus a weekly support group including 30 minutes of informal discussions about practical problems and coping strategies vs. the support group meetings only. | EPDS median score, 14 weeks 5 vs. 6 | P=0,03 |

EPDS, Edinburgh Postnatal Depression

DISCUSSION

Childbirth or labor is a complex, dynamic, reciprocal, and integrated sociocultural process that is experienced and shared by the infant, parents, family, and the greater community (Thompson & Harper, 1999). A mother who raised in a caring family, have a chance to get a better companion during pregnancy and childbirth. However, not every person could be an adequate companion. A mother needs companion from a lay person who trained and experience in pregnancy and labor. That person may be from mother relatives or person with no prior social relationship. The important of companion during pregnancy and childbirth are to minimize complication, unnecessary medical intervention and the gentle of pregnancy process. The research shows that positive maternal perception increased. 2 out of 3 articles prove it and 1 article didn't. It happened because of the article which not shown, was not conducted perception examination.

Doula will give not only physical and emotional support to mother, but also informational support. Doula will instruct/coach mother about breathing for relaxation and facing the contraction, so that mother can perform a correct pushing when delivery (Adams, 2004). A trained and supported mother by Doula will survive conducting a natural birth with less obstetrical intervention. This fact was revealed in 2 articles, while the other article did not mention it because the sample was taken in post partum phase.

Postpartum depression (PPD) is a major health issue for many women and, if left untreated, can result in serious health consequences for the mother and the infant (Mccomish, Groh, & Moldenhauer, 2012). Post partum depression is decreased in group with Doula supported. Emotional support from Doula such as continuous presence, reassurance, encouragement, praise, humor and verbal distraction (Adams, 2004) may lead mother to a better self-esteem to face the pregnancy and after delivery. 2 articles did not mention significantly but describe a satisfaction, happily and easier process during pregnancy and childbirth. 1 article revealed a complete description about kind of intervention which will decrease the post partum depression.

CONCLUSION

Implication for Practice

There is quiet strong evidence that support from a minimally trained woman as a Doula during the pregnancy and labor that will significantly raise welfare of woman and infant. Mother gets better self-esteem about her delivery experience and the baby gets better nutrition and bound from mother

Implication for research. The literature sources took place in America. Therefore, same research in Indonesia needs to be done because of the culture and social differences.

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REFERENCES

- Adams, A. L. B. E. D. (2004). Doulas, labor support, and nurses. *International Journal of Childbirth Education (INT J CHILDBIRTH EDUC)*.
- Appraisal, C., & Programme, S. (2006). CASP 10 questions to help you make sense of reviews. *Public Health*, (October), 1–4. Retrieved from <http://www.sph.nhs.uk/sph-files/casp-appraisal-tools/>
- Arnold, J. (2001). Social Support by Doulas During Labor and the Early Postpartum Period. *Hospital Physician*, (September), 57–65. Retrieved from <http://doula.org.za/wp-content/uploads/2009/06/Social-support-by-doulas-during-labour.pdf>
- Campbell, D., Scott, K. D., Klaus, M. H., & Falk, M. (2007). Female relatives or friends trained as labor doulas: Outcomes at 6 to 8 weeks postpartum. *Birth*, 34(3), 220–227. doi:10.1111/j.1523-536X.2007.00174.x
- Guyatt GH, Sackett DL, C. D. (1994). RCT CASP. *Jama*, 271(1), 59–63.
- Hodnett, E, Gates S, Hofmeyr G, Sakala, C. (2003). Continuous Support for women during childbirth. *The Cochrane Database of Systematic Reviews*, (3). doi:10.1002/14651858.CD003766.pub3.
- Kathryn D. Scoot. (1999). the obstetrical and post partum benefits of continuous support during childbirth. *JOOURNAL OF WOMEN'S HEALTH & GENDERBASED MEDICINE*, 8.
- Lumley, J., Austin, M.-P., & Mitchell, C. (2004). Intervening to reduce depression after birth: a systematic review of the randomized trials. *International Journal of Technology Assessment in Health Care*, 20(2), 128–144. doi:10.1017/S0266462304000911
- Mccomish, J. F., Groh, C. J., & Moldenhauer, J. A. (2012). Development of a Doula Intervention for Postpartum Depressive Symptoms: Participants ' Recommendations. doi:10.1111/jcap.12019
- Middleton, W. (2003). Postpartum doulas : Vital members of the maternity care team.
- Thompson, R. A., & Harper, L. V. (1999). Doula Supported Childbirth : An Exploration of Maternal Sensitivity , Self-Efficacy , Responsivity , and Parental Attunement Diploma (Mountainside Hospital School of Nursing) 1976 Approved :

COMMUNITY BASED BREASTFEEDING COUNSELING FOR SUPPORT OF EXCLUSIVE BREASTFEEDING ON MATERNAL: A LITERATURE REVIEW

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ABSTRACT

Background: Breastfeeding is the adaptation process experienced by postpartum mothers. If she assisted when started breastfeeding, the mothers will succeed to continue breastfeeding. Peer counselling is reported to increase exclusive breastfeeding. Exclusive breastfeeding for the first six months could reduce infant mortality.

Purpose: The Purpose of review is to provide literature review to describe about effects of Community Based Breastfeeding Counselling for Support of Exclusive Breastfeeding on Maternal

Method: Literature was searched in appropriate database, restricted from January 2005 to January 2015. PUBMED, International Breastfeeding Journal, Science direct and Google Scholar are Data Based used to explore the article, by using PECOT/PICOT framework P (population): maternal; E/I(exposure/implementation): Community Based Breastfeeding Counseling ; C (control) : -, O (outcome): Increase Exclusive Breastfeeding

Result: In rural Community, Community Based Breastfeeding Counseling were easily accepted by their communities and effective to increase exclusive breastfeeding rates. In different study peer counseling is not significant to increase exclusive breastfeeding because there is no standardized training curriculum for counseling program.

Conclusion: Community Based Breastfeeding Counseling can more effective to increase exclusive breastfeeding counseling if there is a standardized training curriculum for all counsellors and start given to mother since antenatal periods.

Keyword: Community Based Breastfeeding Counseling, Maternal, Exclusive Breastfeeding

BACKGROUND

The postpartum period is a critical time for the mother to adapt after childbirth. Adaptation in the postpartum period, including adjusting to family, build a positive interaction with the baby and to give exclusive breastfeeding. One of the problems that occur in the postpartum period is the failure of mothers in exclusive breastfeeding. The low exclusive breastfeeding rates because the mothers do not know the benefits of breastfeeding for children's health. Support from father also affect the success of exclusive breastfeeding for six months.

Mother's decision to give exclusive breastfeeding affected information from family or community about the benefits of breastfeeding, as well as lactation consultant (Wulandari, 2009). The impact of non exclusive breastfeeding can reduce the baby's immune system so vulnerable to infection, especially disorders of the digestive system. The Purpose of review is to provide literature review to describe about effects of Community Based Breastfeeding Counselling for Support of Exclusive Breastfeeding on Maternal

METHODS

Literature was searched in appropriate database, restricted from January 2005 to January 2015. PUBMED, International Breastfeeding Journal, Science direct and Google Scholar are Data Based used to explore the article, by using PECOT/PICOT framework P (population): maternal; E/I(exposure/implementation): Community Based Breastfeeding Counseling ; C (control) : -, O (outcome): Increase Exclusive Breastfeeding

SELECTION OF THE ARTICLES

This literature review prepared by several stages of the search strategy. First search was conducted in PUBMED, International breastfeeding Journal, Science Direct dan Google Scholar associated with exploration using keywords : ‘ Maternal’, “Community Based Breastfeeding Counseling” AND “Exclusive Breastfeeding”. The second stage is to conduct searches manually on the first search results.

Some of the criteria used in the selection of the article are:

1. Articles used an original reference, not a second source.
2. Authors the article is a medical practitioner
3. Research report on the effectiveness of Breastfeeding Counseling Community Based on the success of Exclusive Breastfeeding
4. Limitation used palam search articles are: Mother Postpartum population, Year 2005 to 2015, using the English language.

RESULTS

Research conducted by Elizabeth M Sullivan et al on the impact of education and training by community-based breastfeeding counselors are cross sectional study using the 847 participants from across the United State who participated via online survey showed counselor education is not a significant predictor of the type of training they receive. Further Education breastfeeding is a significant determinant of the type of counseling techniques used by the client. Therefore, more research is needed to critically examine the content of the curriculum of training programs Breasfeeding Community Based Counselor (CBBC). This may indicate the need for a standard training curriculum for all CBBC programs worldwide to make CBBC more proficient and efficient, ensuring optimal success and experience of breastfeeding for mothers and their babies.

Research conducted by Derek Thaczuk, in 2008 in South Africa This is a cohort study that uses postpartum mothers as participants by providing counseling

72 hours after birth showed that mothers who received counseling visits 2 times more likely to give exclusive breastfeeding baby.

Research conducted by Esther HY Wong et al is a qualitative study that attempted to describe the role of Peer Counselor (PC) in maintaining breastfeeding in Hong Kong. Which in this study Peer Counselor (PC) is a successful breastfeeding mothers and have formal training, research shows there is no evidence to endorse that Peer Counselor (PC) has an effect on the length of breastfeeding mothers. the lack of intervention effects PC we might reflect that the low level of breastfeeding because our society (Hong Kong) have not considered breastfeeding is not something important.

The study, entitled "Community-based Peer Counsellors for support of exclusive breastfeeding: experiences from rural Uganda" was performed by Jolly et al Nankunda using qualitative research design attempted to describe the experience of Community Based Peer Counselor in providing support for exclusive breastfeeding. In this study with the help of researchers, local communities have been fifteen people to the criteria women aged 25 to 30 years. These women were trained for five days in breastfeeding counseling using the curriculum of La Leche League. After training they return to their communities and begin to support breastfeeding mothers group. The results showed it turns Peer Counselor better appreciate the knowledge gained and they are ready to help groups of mothers breastfeed despite their busy schedules, they identify the problems that are found in nursing mothers as breastfeeding less, nipple pain, breast swelling, mastitis and a feeding position is wrong. And the peer counselor is very easy to be accepted by society.

Research conducted by L Lungiswa Nkonki et al, entitled "Selling a service: experiences of peer supporters while promoting exclusive infant feeding in three sites in South Africa" aims to describe the experience of Peer Supporters in promoting exclusive breastfeeding in three different locations in South Africa. This study is a qualitative research where data obtained through Focus Group Discussion (FGD) then the data results from ditranskrip discussion and analysis. Results from this study indicate that Unlike the services provided by primary health care, Peer Supporters have to market their services. They must negotiate entry into mom's house and then observe and study life. In addition, they also have to demonstrate competence and appear as professional and trustworthy. Peer Supporters spend most of their time in the field and should learn self-management skills.

NURSING IMPLICATIONS

Most women assume that the days of giving birth is difficult times that will cause them to experience emotional distress. Postnatal period adjustments in a few weeks or the first month is not an easy thing for a mother primiparous or multiparous because after the birth of a child is a crisis situation for the family or the potential to be a crisis for some couples because of a change in roles, relationships and lifestyle is a necessity to be the old. Plus some new mothers have little or even not yet have experience in caring for newborns and perform self-care after childbirth. Adaptation of postnatal maternal adjustment must pass through a phase which includes receiving (taking in), self-dependent phase (taking

hold), and interdependent phases (letting go). In the phase of taking hold, some women have difficulty adjusting for maternal adaptation especially for mastering duties as parents, the isolation experienced because he had to take care of the baby and do not like to responsibilities at home and care for the baby.

Based on research in the study by the group showed that consultation needs to be given to breastfeeding mothers postpartum either by primary care provider or through Peer Counselor who were recruited from mothers who have successful experience in breastfeeding or of the women who come from the community themselves where they have been given education and training on breastfeeding counseling before being placed in the midst of society. Peer counselors method is very easily accepted by society, especially nursing mothers apart because it comes from their own group but also mothers be helped.

Nurses as care giver can choose how to provide counseling to mothers postpartum directly or can be through the family from these mothers to become peer counselors course after being given education and training on breastfeeding counseling. The peer counselors will help mothers in identifying the problems that arise when nursing and find a way out. Results of the research study above shows that mothers who get guidance / counseling would be likely to breastfeed exclusively.

CONCLUSIONS

After reviewing the results of research on breastfeeding counseling to mothers after childbirth can be concluded:

1. Most women assume that the days of giving birth is difficult times that will cause them to experience emotional stress
2. Breastfeeding Counseling is effective in reducing emotional stress experienced by mothers during breastfeeding.
3. Counseling breastfeeding can be done directly by nurses as primary health care providers or may be via Peer Counselor (counselor group)

SUGGESTIONS

1. A description of breastfeeding counseling should be given to the mother since antenatal care
2. Nurses are required to continuously improve the knowledge and skills of breastfeeding counseling
3. Participation and Peer Counselor families need to be improved to provide counseling to mothers who breastfeed course after being given education and training.

REFERENCES

- Abdullah, S., D. Hastuti, U. Sumarwan, 2004, *Pengambilan Keputusan Pemberian ASI Eksklusif kepada Bayi di Kota Bogor, Media GIZI & KELUARGA*, Juli 2004, hal. 70-77.
- Anderson, McFarlane. 2008. *Community as partner : theory and practice in nursing* 5th edition. Philadelphia : Lippincott Williams & Wilkins

- Budioro, B., 1998, *Pengantar Pendidikan (Penyuluhan) Kesehatan Masyarakat*, Badan Penerbit Fakultas Kesehatan Masyarakat Universitas Diponegoro, Semarang, hal.12-20.
- Departemen Kesehatan RI, 2001, *Buku Panduan Manajemen Laktasi*, Dit. Gizi Masyarakat- Depkes RI, Jakarta.
- Departemen Kesehatan RI, 2004a, *Kepmenkes RI No. 450/MENKES/IV/2004 tentang Pemberian Air Susu Ibu (ASI) secara Eksklusif pada Bayi Indonesia*, Departemen Kesehatan RI, Jakarta.
- Departemen Kesehatan RI, 2004b, *Kebijakan Departemen Kesehatan tentang Peningkatan Pemberian Air Susu Ibu (ASI) Pekerja Wanita*, Departemen Kesehatan RI, Jakarta.
- Departemen Kesehatan RI, 2005, *Manajemen Laktasi: Buku Panduan bagi Bidan dan Petugas Kesehatan di Puskesmas*, Dit. Gizi Masyarakat- Depkes RI, Jakarta.
- Efendi, Mahfudli. 2007. *Keperawatan Kesehatan Komunitas: Teori dan Praktik dalam keperawatan*. Salemba Medika. Jakarta
- Esther HY Wong¹, EAS Nelson. (2007). Evaluation of a peer counselling programme to sustain breastfeeding practice in Hong Kong. *International Breastfeeding Journal* 2007, 2:12 doi:10.1186/1746-4358-2-12
- King, F.S., 1991, *Menolong Ibu Menyusui*, PT. Gramedia Pustaka Utama, Jakarta, hal. 131-139.
- King, F.S. dan A. Burgess, 1996, *Nutrition for Developing Countries*, 2nd Ed, Oxford University Press, New York, p. 96.
- LINKAGES, 2002, *Pemberian ASI Eksklusif atau ASI saja: Satu-satunya Sumber Cairan yang Dibutuhkan Bayi Usia Dini*, Diakses pada tanggal 10 April 2015, dari www.linkagesproject.org.
- Nankunda, Jolly et al (2006). Community Based Peer Counsellors for Support of Exclusive Breastfeeding: Experiences From Rural Uganda. *International Breastfeeding Journal* 2006, 1: 19 doi: 10.1186/1746-4358-1-19
- Nkonki et al (2010). Selling a Service: Experiences of Peer Supporters While Promoting Exclusive Infant Feeding in Three Sites in South Africa. *International Breastfeeding Journal* 2010 5: 17
- Notoatmodjo, S., 2003, *Prinsip-prinsip Dasar Ilmu Kesehatan Masyarakat*, Penerbit Rineka Cipta, Jakarta, hal.118-145.
- Pudjiadi, S., 2001, *Bayiku Sayang: Petunjuk Bergambar untuk Merawat Bayi dan Jawaban atas 62 Pertanyaan yang Mencemaskan*, Fakultas Kedokteran UI, Jakarta, hal. 16-33.
- Pillitteri A. 2003. *Maternal and Child Health Nursing*. Philadelphia : Lippincott Williams and Wilkins
- Roesli, U., 2005, *Mengenal ASI Eksklusif*, Trubus Agriwidya, Jakarta, hal. 2-47.
- Roesli, U., 2001, *Bayi Sehat berkat ASI Eksklusif*, PT. Elex Media Komputindo, Jakarta, hal. 1-34.
- Soetjiningsih, 1997, *ASI Petunjuk untuk Tenaga Kesehatan*, Penerbit Buku Kedokteran EGC, Jakarta, hal: 1-175.
- Sullivan et al (2011). Impact of Education and Training on Type of Care Provided by Community Based Breastfeeding Counselors: a cross-sectional Study. *International Breastfeeding Journal* 2011, 6:12

- Suyatno, 2000, *Pengaruh Pemberian Makanan Pendamping ASI (MP-ASI) Tradisional terhadap kejadian ISPA, Diare, dan Status Gizi Bayi pada 4 (empat) bulan Pertama Kehidupannya*, Program Pascasarjana Universitas Gadjah Mada, hal. 35-68.
- Thomson, Marie, Kristy (2015). Building Social Capital Through Breastfeeding Peer Support: Insights from an Evaluation of a Voluntary Breastfeeding Peer Support Service in North-West England. *International Breastfeeding Journal* 2015 10:15 doi: 10.1186/s13006-015-0039-4
- Utomo, B., 2000, *The Slowing Progress of Breastfeeding Promotion Program in Indonesia: Causes and Recommendation*, Kumpulan Makalah Diskusi Pakar bidang Gizi tentang ASI MP ASI, Antropometri, dan BBLR, Kerjasama antara Persatuan Ahli Gizi Indonesia, LIPI, dan UNICEF.
- Wheller, L. 1997. *Nurse-Midwifery Handbook: A Practical Guide To Prenatal and Postpartum Care*. Philadelphia: Lippincott
- YLKI, 2003, *Asia Pasific Conference on Breastfeeding*: Adakah yang Lebih Baik daripada Menyusui? :Strategi Global untuk Memperbaiki Pemberian Makanan pada Bayi dan Anak, Warta Konsumen, Edisi Desember 2003/No.12/XXIX, hal. 18-20.
- YLKI, 2005, *Jalan Panjang Menyukkseskan Program ASI Eksklusif 6 Bulan*, Warta Konsumen, Edisi Februari 2005/No.02/XXXI, hal.10-14.

RESEARCH STUDY RESULTS

Table 1. Research Study Results about *Community Based Breastfeeding Conseling*

| No | Title | Authors | Methods | Sample | Random | Action | Contro 1 | Outcomes Measurements / Variable | Results |
|----|--|---|---|---|--------------------------------------|---|---------------|---|---|
| 1. | Impact of education and training on type of care provided by community-based breastfeeding counselors: a cross-sectional study | Elizabeth M Sullivan, Whitney E Bignell ¹ , Anne Andrianos ² and Alex K Anderson ^{1*} | Cross Sectional study bivariate analysis using χ^2 test was used to examine the differences between CBBC education, training received and breastfeeding support skills used. Multivariate logistic regression was used to assess the independent determinants of specific breastfeeding support skills. | communitie s across the United States. | Random (-) purposive sampling. | The provision of lactation counseling about the method of community- based breastfeeding counselors | no control | continuing education and use of intensive breastfeeding | The major findings from the research indicate that overall, educational attainment of CBBCs is not a significant predictor for the curriculum used in their training and type of support skills used during counseling sessions |
| 2. | Program konseling | Derek Thaczuk, | Cohort Study | Postpartum Mothers | No random 2.436 | Counseling | no control | Mothers breastfeed | Mothers who received visits counseling 2 |

| No | Title | Authors | Methods | Sample | Random | Action | Control | Outcomes Measurements / Variable | Results |
|----|---|--|-------------------------|---|--------------------|-----------------|-------------------------|--|--|
| | berhasil mendorong pemberian ASI eksklusif di Afrika Selatan | 2008 | | | postpartum mothers | | | their babies exclusive | times more likely to give their babies breast milk exclusive |
| 3. | Evaluation of a peer counselling programme to sustain breastfeeding practice in Hong Kong | Esther HY Wong, HAS Nelson, Kai-Chow Choi, Kin-Ping Wong, Carmen Ip and Lau-Cheung Ho ³ | Descriptive Qualitative | mothers (n = 100) who continued breastfeeding their infants after discharge. Control group mothers (n = 100) received routine care. | No random | | There is control groups | | All differences between the groups were not significant. Also, there was no evidence to suggest that PC intervention prolonged breastfeeding duration. |
| 4. | Community based peer counsellors for support of | lolly Nankunda, James K Turn wine, Ashild | Descriptive Qualitative | Women 25 to 30 year Old | Purposive sampel | No Intervention | no control | Exploration peer counsellors experiences | The training and follow up of peer counsellors Co support exclusive |

| No | Title | Authors | Methods | Sample | Random | Action | Contro 1 | Outcomes Measurements / Variable | Results |
|----|---|---|-------------------------|-----------------|--------------------|-----------------|----------------|---|---|
| | exclusive breastfeeding: experiences from rural Uganda | Soltvedt, Nulu Semiyaga ¹ , Grace Ndeezi ¹ and Thorkild Tylleskar | | | | | | from rural Uganda | breastfeeding in this rural district is feasible. The peer counsellors were accepted by their communities. |
| 5. | Selling a service: experiences of peer supporters while promoting exclusive infant feeding in three sites in South Africa | Lungiswa L Nkonki, T, Karen L Daniels, PROMISE-EBF study group | Descriptive Qualitative | Peer Supporters | Purposive sampling | No Intervention | No Contro 1 | Exploration peer supporters experiences | Unlike the services provided by mainstream health care, peer supporters had to market their services. They had to negotiate entry into the mother's home and then her life. |

THE RELATIONSHIP BETWEEN CARING IN PRIMARY HEALTH CARE TEAM AND THE ACHIEVEMENT OF MATERNAL HEALTH PROGRAM IN INDONESIA.

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ABSTRACT

Background: Maternal mortality rate (MMR) still becomes a problem in Indonesia. Achievement of indicator in maternal health care program still low in some provinces. They haven't applied yet the caring in primary health care team.

Objective: This research aims to know the relationship between caring in primary health care team and the achievement of maternal program in Indonesia.

Methods: The research design was the correlative study, used the cross sectional approach. The interview used structured questions to 128 maternal health staffs and 3200 mothers of infant/child-under-five-years at 64 public health centers (PHC) in Indonesia.

Results: The result showed that there were significant relationships between caring of leaders to staffs and among staffs with the achievement of maternal health program.

Conclusion: The conclusion was that there were significant relationships between caring of primary health care team and the achievement of maternal health program. The study recommends that a policy need to be considered by the government to apply the caring by primary health care team of maternal health program in Indonesia.

Keywords: caring, primary health care team, maternal health program.

BACKGROUND

Indonesia Health Demography Survey (SDKI) explained that the MMR in Indonesia in the year of 2012 was in the nasty condition, those were 359 deaths for each 100.000 live births (LB). The height of the MMR in Indonesia was caused by all kinds of factors which caused low of the level of maternal health care in quality as well as in quantity. The above-mentioned factors such as the community still chose the traditional birth attendant (TBA) as a place of looking for the health aid (Women Research Institute, 2007), as well as the reporting and recording systems and activities which less than good (Sunarwan dkk, 2013). The strategies to handle the above-mentioned problems (Kemenkes RI, 2011) were :

(1) to improve the access and the extent of maternal and neonatal health care; (2) to develop the partnership of inter-program and sectoral; (3) to empower the women and their families; and (4) to motivate the community involvements.

The main indicator to measure the success of the maternal health care was the achievement of delivery by the health worker (PN). The average of achievement of PN in Indonesia in the year of 2013 was 90.88% (Kemenkes RI, 2014) but this proportion had variation among provinces. The lowest was 39.05% in Papua Province and the highest was 99,89% in Central Java. One of many factors that influence the quality of care was the officer attitude.

Yustina (2009) said that the achievements of the maternal program which was showed in the forms of data hasn't fully yet able to be made as guidances to described the conditions of the actually community health because the validity of the data those were resulted always be hasitated. Pasaribu (2011) explained that managment of maternal health data which were not good could be caused by the attitude which was not good especially to undertake the changes of the truly data by the artificial data or to complete the data with the last data

According to those problems, they were important to investigate the providers attitude and behavior in the primary health care. The good providers attitude become a very important factor in acceptance of the community toward the care (Moore et al, 2002). Performance of the health workers especially in caring becomes very important to influence the quality of care (Dwidiyanti, 2007).

Swanson (1991 in Tomey & Alligood, 2010) concluded the caring as a nurturing way of relating to a valued other toward whom one feels a personal sense of commitment and responsibility. The main concept of Swanson theory consisted of five phases those are knowing, being with, doing for, enabling and maintaining belief. All five of those caring phases able to be applied toward the primary health care team to improve the achievement of indicator in the maternal health program.

According to the background those were mentioned above, thus the research problems were: (1) the evaluation result indicated that the achievement of indicator in maternal health program was high in some provinces but was still low in the other provinces; (2) the validity of the data was still hasitated because of the officer attitude less then good (3) they haven't applicated yet the caring program in the primary health care team in Indonesia to increase the achievement of indicator in maternal health program.

The research questions are: (1) how much was the achievement of the indicator of the maternal health program actually ? (2) how was the caring in the primary health care team of the maternal health program? (3) was the caring in the primary health care team related to the achievement of indicator in maternal health program ?

The general aim of the research to know the relationship between caring in the primary health care team and the achievement of indicator of maternal health program in Indonesia. The special aims were: (1) to know the achievement of indicator of the maternal health program in Indonesia; (2) to know the caring in the primary health care team; (3) to know the relationship between caring in the

primary health care team and the achievement of indicator of maternal health program.

METHODOLOGY

The research used the design of correlative study by cross sectional approach. In this research, the independent variable was caring in the primary health care team that consisted of four dimensions those were leader to staff, among staffs, staff to health cadre, staff to mother of infant/child-under-five-years; and the dependent variable was the achievement of maternal health program.

The research population was the staffs of maternal health program and the mothers of infant and/or child under five years throughout Indonesia regions. The sample selection preceded by selection of provinces those were performed by the purposive manner, so that chose the eight provinces, and sixteen regency/town in those provinces. Sampling were the staffs of maternal health program and the mother of infant and/or child under five years in the regency/town that chose.

The research unit were the mothers of infant/child-under-five-years who lived in the PHC work area. Selection of the PHCs were carried out by the random manner, those were as many as 4 PHCs of each regency/town. So that all of the PHC which involved were 64 PHCs. At each PHC was chosen two staffs of maternal health program.

The sample of maternal of infant/child under five years are chosen with the random manner toward two villages of each PHC. Each villages chose the sample in the amount of 25 mothers of infant/child under five years, so that the amount of all of mothers sample were 3200 mothers of infant/child-under-five-years. The collecting data of the second stage research was carried out on the October 2012.

The instruments to measure the caring have been developed by Dwiantoro (2012) those were the structured questions for the maternal health program staffs which each consist of four dimensions those were leader to staff, among staffs, staff to health cadre, and staff to mother of infant/child-under-five-years. The instruments to collect the data about the achievement of indicator of maternal health program used the question for mothers of the infant/child-under-five-years. These instrument was the question to ask the data about the birth aid. The instruments examination were undertaken through the validity and reliability tests. The data were collected with the technical of interview.

The descriptive analysis for the category variables were explained by the amount or frequency of each category (n) and percentage of each category (%), and the numerical variables were explained by the mean, median, deviation standard and minimum and maximum value. The relationship analysis used both the Mann-Whitney Tests because the measurement scale was numerical. The most dominant related factor analysis used the Logistic Regression because the variable had categorical measurement scale.

RESULT AND DISCUSSION

The characteristic of maternal health care program staffs, seen on table 1.

Tabel 1 The Characteristics of the Maternal Health Care Staffs in Indonesia, October 2012

| No | Variabel | The Maternal Health Care Program | |
|----|--|----------------------------------|----------|
| | | Mean | Min-Maks |
| 1 | The long time of position currently (year) | 7,0 | 0,1-22,8 |
| 2 | The long time become staff of PHC (year) | 12,2 | 0,3-30,8 |
| 3 | The long time become the employee | 14,7 | 0,0-30,8 |
| 4 | The amount of dependant (person) | 1,9 | 0,0-7,0 |
| | | | |
| 5 | Education | f | % |
| | a. SPK, /SPAG/DI | 519 | 26.1 |
| | b. DIII | 948 | 47.7 |
| | c. SI/DIV | 522 | 26.2 |
| | Sum | 1.989 | 100 |

Based on table 1, appeared that characteristic of staffs in the maternity health care program as follow: the average of long time position currently was 7.0 years; the average of the long time become staff of PHC was 12.2 years; the average of long time become the health employee (since as a vplonteer) was 14.7 years; the average of the amount of dependant was 1.9 persons; and the proportion of majority (47.7%) of education level was D III.

The achievement of Indicator in maternal health care, printed on table 2.

Table 2. The Achievement of Indicator in Maternal Health Care Program in Indonesia, Oktober 2012

| Variable | Achievement | | | |
|---|-------------|------|----------|------|
| | Good | | Not Good | |
| | f | % | f | % |
| The Indicator of Maternal Health Care Program | 1.587 | 79.8 | 402 | 20.2 |

Table 2 indicated that the good achievement of maternal health care program was 79.8%.

The caring in primary health care team of maternal health program in Indonesia printed on table 3.

Table 3. The Caring in Primary Health Care Team of Nutrition and MCH programs in Indonesia

| No | Variable | Score in Maternal Health Care Team | |
|----|------------------|------------------------------------|---------|
| | Caring Dimension | Mean | Min-Max |
| 1 | Leader to staff | 68.3 | 8-94 |
| 2 | Among staffs | 12.2 | 4-18 |

| No | Variable | Score in Maternal Health Care Team | |
|----|------------------|------------------------------------|---------|
| | Caring Dimension | Mean | Min-Max |
| 3 | Staff to cadre | 7.1 | 2-11 |
| 4 | Staff to mother | 78.6 | 34-109 |

Based on the table 3, seen that the score average for caring on dimension of leader to staff in the maternal health program just reached 66.96%. This research result showed that the care which be given by leader to staff didn't show the good quality.

The average score for caring of among staffs in maternal health program just reached 67.78%. This result showed that the conflicts in team were still high, cooperations among staffs weren't good yet, the roles of each staff weren't clear yet and personalisations in the team were still low. The mentioned matter showed that the organization climates of the maternal health program were not good yet.

The average score for caring of staff to health cadre in maternal health program just reached 59.17%. This result showed that the coordination between staff and cadre wasn't effective yet. The communications which being performed haven't had the good frequency and quality yet, haven't been supported yet by the relationship of the aim-shared, knowledge-shared, and to appreciate mutually each other, therefore they hadn't given yet the benefit to the client.

The average score for caring of staff to mother of infant/child-under-five-years just reached 62.38%. This result showed that the caring that was given by the staff to mother of infant/child-under-five-years wasn't fully to fulfill the aspects of physical accessibility, affordability, appropriateness, and acceptability so that it didn't satisfy the client yet.

The Relationship between Caring in Primary Health Care Team and the Achievement of Maternal Health Program.

The relationship between caring in primary health care team and the achievement of Maternal Health program, printed on table 4.

Table 4. The Relationship between Caring in Primary Health Care Team and the Achievement of Maternal Health Program

| Caring Dimension | Achievement of program | Maternal Health (PN) | |
|------------------|------------------------|----------------------|--------|
| | | Mean Rank | p |
| Leader to staff | Good | 968.33 | 0,000* |
| | Not Good | 1100.29 | |
| Among staffs | Good | 979.32 | 0,015* |
| | Not Good | 1056.88 | |
| Staff to cadre | Good | 994.87 | 0,983 |
| | Not Good | 995.53 | |
| Staff to mother | Good | 1001.69 | 0,301 |
| | Not Good | 968.60 | |

Based on table 4, the caring of leader to staff related to the achievement of maternal health program. However the value of mean rank indicated the negative relationship. This result was not appropriate with the hypothesis. This matter mean that there was no positive coordination between the leader and the staff in the field. It happen because of the assistance of delivery was carried out by the midwife or the maternal health worker in the village and not by the maternal health officer in PHC. The long distance of PHC with the village caused coordination was very rare done by the leader to village midwife. The midwife coordination with the leader at PHC limited only to give the report and was done one time a month. The increasing of the leader coordination to the village midwife at the PHC improved exactly the workload of village midwife.

The caring of among staffs related to the achievement of maternal health program. However the value of mean rank indicated the negative relationship. This result was not appropriate with the hypothesis. It mean that among the village midwives there were no coordination. It was reasonable because in one village, there was only one midwife. Moreover, a lot of villages didn't have midwives. If there was not midwife in the village or the spreading of midwives were not even out, the coordination become ineffective or to increase the workload.

There was not relationship between caring of staff to health cadre and the achievement of maternal health program. This result was not appropriate with the hypothesis. It happened because of the coordination between the PHC maternity health staffs with the cadres connected only to the maternity health program at the integrated care post (posyandu). Whereas the delivery assistance be carried out by the village midwife was not involved in this research.

There was not relationship between caring of staff to mother of infant/child-under-five-years and the achievement of maternal health program. This result was not appropriate with the hypothesis. It happened because the delivery care was carried out by the midwife in the the village, so that the caring of the maternal health staff to mother in the PHC didn't measure the caring of the village midwife to mother in the village.

The most Dominant Factor Related to the Achievement of Maternal Health Program

The most dominant factor related to the achievement of maternal health program, seen on table 5.

Tabel 5. The End Model of the most Dominant Factor Related to the Achievement of Maternal Health Program in Indonesia, Oktober 2012

| No | Variable | The Achievement of Maternal Health Program | |
|----|----------------------------|--|-------|
| | | P | OR |
| 1 | The Long Time of Position | 0,000* | 0,966 |
| 2 | The Long Time Become Staff | | |
| 3 | The Long Time become the | | |

| No | Variable | The Achievement of Maternal Health Program | |
|----|------------------------|--|-------|
| | | P | OR |
| | Health Worker | | |
| 4 | Caring of Leader-Staff | 0,004* | 1,012 |
| 5 | Caring of among Staff | | |
| 6 | Caring of Staff-Mother | | |

Based on table 5, appeared that the most dominant factor related to the achievement of maternal health program was caring of leader to staff. This result was appropriate with the hypothesize. The leader who have the good caring will increase the job satisfaction to the staff. Job satisfaction will increase performance to the staff, so that able to reach the achievement of maternal health program.

CONCLUSION AND RECOMMENDATION

The research result indicated that the four dimension of caring in primary health care team (leader to staff, among staffs, staff to health cadre, and staff to mother of infant/child-under-five-years) didn't not related to the achievement of maternal health program. It occurred because of the demographic condition that so far and reached-difficult between PHC and the village as the work area. Moreover, the workforce in the maternal health care program were exceedingly insufficient. Both of mentioned-factors caused less coordination that result in less of caring in maternal health care team.

Recommendation those were that related to the insufficient of the maternal health care workforce needed to involve the nurses in maternal health care program. The nurses have the caring human spirit who have being potent to improve the achievement of indicators in maternal health care program.

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REFERENCES

- Adriansyah, A. (2003). Pengaruh kebudayaan suku bangsa terhadap hubungan antara perilaku pemimpin dengan kepuasan kerja bawahan (Kajian pada Kelompok Kebudayaan Suku Jawa dan Minang). *Tesis*. Fakultas Psikologi. Universitas Indonesia.Jakarta.
- Anggraeni.(2008). Pengaruh pengembangan organisasi dan penempatan terhadap kepuasan kerja dan kinerja karyawan PT. BPR Sri Artha Lestari Denpasar.*Tesis*. Magister Manajemen Universitas Udayana. Bali.

- Australian Institute of Health and Welfare.(2013).*Improving the accessibility of health services in urban and regional settings for Indigenous people*. Australian Government.Australian Institute of Family Studies. *Resource sheet no. 27* produced for the closing the gap clearinghouse. Vicki-Ann Ware. December 2013.
- Badan Pusat Statistik (2013). *Survey demografi dan kesehatan Indonesia (SDKI) 2012*. Jakarta
- Bahtiar, dkk.(2012). *Program gizi-KIA.Pemantauan hasil midterm.Penyajian untuk pengembangan opsi perbaikan.kebijakan & manajemen program*.Tim UI/IAKMI. Jakarta
- Depkes (2007).*Program Akselerasi Peningkatan Gizi Masyarakat*. Jakarta: Dirjen Binkesmas
- Depkes RI (2008). *Keputusan Menteri Kesehatan RI No. 828/Menkes/SK/IX/2008 tentang petunjuk teknis standar pelayanan minimal bidang kesehatan di kabupaten/kota*.Jakarta.
- Dinkes polewali mandar.(2012).[AKI Indonesia dan jumlah kematian ibu di Kab. Polewali Mandar](http://dinkes.polewalimandarkab.go.id/category/data-analysis/page/2/). <http://dinkes.polewalimandarkab.go.id/category/data-analysis/page/2/>December 18, 2012
- Dwidiyanti, M. (2007).*Caring Kunci Sukses Perawat Mengamalkan ilmu*. Semarang: Hapsari.
- Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge, MA: Harvard University Press.
- Kalo (2008).*Pelayanan Kesehatan Ibu Hamil Di Puskesmas Kahala: Suatu Tantangan. Artikel.Sebuah Kajian Dari Sudut Pandang Kesehatan Tentang Usaha Para Petugas Kesehatan (Bidan) Dalam Meningkatkan Kerjasama Dengan Kedudukan Penguling (Dukun Beranak) Di Wilayah Puskesmas Kahala*.
- Karawuan, R.O. (2012).*Tinjauan tentang Perilaku Kepemimpinan Kepala Desa dalam Pelaksanaan Pembangunan di Desa Tounalet Kecamatan Kakas Kabupaten Minahasa*.
- Kemenkes (2010). *Pedoman Pemantauan Wilayah Setempat Kesehatan Ibu Dan Anak (PWS-KIA)*. Direktorat Jenderal Bina Kesehatan Masyarakat Direktorat Bina Kesehatan Ibu. Jakarta.
- Kemenkes RI (2010). *Riset Kesehatan Dasar 2010*. Badan Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan RI. Jakarta
- Kemenkes RI,(2011). *Data Penduduk Sasaran Program Pembangunan Kesehatan 2011-2014*.Pusdatin Jakarta.
- Kemenkes RI. (2011).*Data dan Informasi*, Pusat Data dan Informasi. Jakarta
- Kemenkes RI (2012).*Profil Data Kesehatan Indonesia Tahun 2011*. Jakarta
- Kemenkes RI. (2013). *Riset kesehatan dasar. Riskesdas 2013*.Badan Penelitian dan Pengembangan Kesehatan. Jakarta
- Kemenkes RI. (2014). *Profil kesehatan indonesia tahun 2013*. Jakarta.
- Moore,et al. (2002). *Assessing the Caring “Behaviors” of Skilled Maternity Care Providers During Labor and Delivery: Experience of Kenya and Bangladesh*. The Change Project. The Academy for Educational Development/ The Manoff Group. Washington DC

- Mosadegh, A.M. (2006). A study of relationship between managers' leadership style and employees' job satisfaction. Emerald Group Publishing Limited *Leadership in Health Services*, Vol. 19 Iss: 2, pp.11 – 28.
- Noddings, N. (1984). *Caring, a feminine approach to ethics and moral education*. 1-11; 5;190, Berkeley, CA; University Of California Press.
- Nugroho, Taufan. (2012). *Obsgyn obstetri dan ginekologi untuk kebidanan dan keperawatan*. Yogyakarta : Nuha Medika.
- Pasaribu (2011). *Pengaruh budaya organisasi terhadap kinerja petugas kesehatan ibu dan anak (KIA) dalam pengelolaan data di Dinas Kesehatan Kabupaten Deli Serdang*
- Prianatama, R. (2009). *Pengaruh Koordinasi Terhadap Peningkatan.Efektivitas Kerja Pada PTPN IV (Persero) Medan*. USU. Medan.
- Rahmanto, B. (2013). *Hubungan Penerapan Perilaku Caring Perawat dengan Rencana Pemanfaatan Kembali Pelayanan Rawat Inap di Ruang Seruni RSUD Dr. M. Yunus Bengkulu Tahun, 2012*. Skripsi. Program Studi S1 Keperawatan Sekolah Tinggi Ilmu Kesehatan (Stikes) Dehasen. Bengkulu
- Sunarwan, dkk.(2013). *Pencatatan Pelayanan Kesehatan Ibu dan Anak: Studi Waktu Bekerja Bidan Desa*. FIKI 2013, 1 (1). ISSN 979-26-0263-1
- Sutianto, F.D. (2010). ***Penerapan Service Quality pada Pelanggan Eksternal dan Internal dalam Menciptakan Keunggulan Kompetitif Suatu Bank***. <http://ekonomi.kompasiana.com/bisnis/2010/06/22/penerapan-service-quality-pada-pelanggan-eksternal-dan-internal-dalam-menciptakan-keunggulan-kompetitif-suatu-bank-173875.html>
- Swanson, K. (2000). *A program of research on caring*. In M. E. Parker (Ed.), *Nursing theories and nursing practice* (pp. 411–20). Philadelphia, PA: F. A. Davis.
- Tomey, A.M., and Alligood, M.R. (2010). *Nursing Theorists and Their Work* (6th ed.). Missouri: Mosby Elsevier.
- Viswanathan, et al. (2007). *Outcomes of Community Health Worker Interventions Evidence Report/Technology Assessment Number 181*. Agency for Healthcare Research and Quality U.S. Department of Health and Human Services 540 Gaither Road Rockville, MD 20850. *AHRQ Publication No. 09-E014 June 2009*.
- Weinberg, D.R. et al. (2007). *Health Care Manage Rev*. 32:140-149 2007. Coordination between formal providers and informal caregivers.
- Wolff, S. B. (1999). *The role of caring behavior and peer feedback in creating team effectiveness*. Boston University, Graduate School of Management. Dissertation.
- Women Research Institute (2007). *Akses dan Pemanfaatan Pelayanan Kesehatan Reproduksi bagi Perempuan Miskin*. Hasil Studi WRI di 7 Kabupaten (Lampung Utara, Lebak, Indramayu, Solo, Jembrana, Lombok Tengah, dan Sumba Barat) 2007. Jakarta
- Yustina, I. (2008). *Jurnal Wawasan*, 13(2), 141 *INA Upaya Strategi Menurunkan AKI dan AKB*

PAIN SCALE DIFFERENCES DURING ARTERIO-VEINOUS (AV) FISTULA AND FEMORAL PUNCTURE IN CHRONIC KIDNEY DISEASE PATIENT IN THE HEMODIALYSIS UNIT

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ABSTRACT

Background: Puncture pain is one kind of nursing problem which often experienced by hemodialysis patient. Puncture pain is defined as a personal sensation which perceived by patient during needle insertion in arteriovenous (AV) Fistula or femoral punctures. Anatomically, both types were located in different areas and depth. AV Fistula puncture located in cephalic or median antecubital vein in subcutaneous layer, while femoral puncture located in femoral vein, deeper than AV Fistula puncture.

Objective: Aim of this study is to compare pain scale during AV fistula puncture with femoral puncture in chronic kidney disease (CKD) patient who undergo hemodialysis.

Methods: In this study, 110 hemodialysis patients (40 using AV fistula and 70 femoral puncture) were totally assign to pain scale assessment a few minutes after puncture procedure using 0-10 numerical rating scale instrument.

Results: The study result shows that participant's characters were similar in both groups. Greatest number on each characteristic in both groups were male sex, 35-65 years old, Javanese culture, frequency of HD 2 times a week, and history of HD >12 months. Rate of anxiety in AV Fistula was lower than femoral puncture. Mean pain score at AV Fistula puncture ($3,15 \pm 1,733$) was less than median pain score at femoral puncture ($5,11 \pm 2,381$). There was a significant pain scale difference between AV fistula puncture and femoral puncture ($p = 0,000$).

Conclusion: Adequate education should be delivered to help patient to determine which vascular access that more convenient. Appropriate nursing intervention can also reduce pain intensity in each vascular access puncture.

Keyword: pain, AV fistula, femoral puncture

BACKGROUND

Chronic kidney disease (CKD) is a pathophysiologic process when kidney has a progressive decreasing function which cannot return into normal condition. This condition can lead to failure of metabolic, fluids, and electrolytes maintenance (Ketut, 2006). CKD is the 12th leading cause of death around the

world (National Kidney Foundation, 2010). The number of patient with CKD in Indonesia also increases every year, until reaching 22.304 patients in 2011 (Indonesian Renal Registry, 2011). The Impact of CKD is accumulation of waste products in the blood which resulted in quality of life alighting due to the presence of uremic symptoms (Slamet, 2001). Those symptoms can be treated by performing hemodialysis, one kind of renal replacement therapy. Hemodialysis works by flowing blood from the body into an artificial kidney tubes (*dialyzer*). Process of hemodialysis requires vascular access as entry and exit access from and into the blood stream. Those accesses are used by stabbing the blood vessels that serve the vascular access.

Types of vascular access which requires insertion of needle in blood vessels and allows the presence of pain are AV fistula and femoral punctures. AV fistula is a permanent access which made through a surgical procedure by connecting arteries and veins (Nicola, 2003). Puncturing AV fistula can be performed in the cephalic vein or in the median antecubital vein. Both veins are located in subcutaneous area, outside the fascia, and not adjacent to the nodes under the arm (Putz & Pabst, 2006). Different with AV Fistula, femoral puncture is a temporary access which can be used at any time. Femoral puncture were used for vessel puncture and cannulation of artery or vein. Both vessels are located adjacent in the area of femoral triangle in the midpoint of inguinal ligament, next to fascia lata, contiguous with musculus iliopsoas and pectineus (Putz & Pabst, 2006).

AV fistula and femoral puncture were located in different area and depth. The femoral artery lies deeper than vessels of AV fistula. The deeper, the more number of tissue continuity damage. The deeper vessels located, the more difficult to reach the vessels. Insertion of needle in vascular access when hemodialysis was performed can lead to several complications. Complication of femoral puncture was greater than AV fistula puncture (Dewi, 2010). Complications were assessed in the form of bleeding from the femoral artery laceration and puncture, catheter infection, groin hematoma, pseudo aneurysm, and catheter thrombosis. The presence of complications can induce pain.

Pain is a subjective unpleasant sensory experience whom someone expressed discomforts either verbalize or not verbalized, or both, as a result from tissue damage (Muttaqin, 2008). The other factors that affecting puncture pain are age, gender, culture, experience of puncture before, anxiety, location of puncture, size of needle, and the administration of local anesthetics. Assessment of puncture pain is important to predict the possibility of vessel puncture complication. There is a difference in location and area between AV fistula and femoral puncture which lead to different complication. Information about pain scale during needle insertion can be used to facilitate patient to determine the type of vascular access which more convenient to use. Nurses also able to provide pain management interventions based on the severity of pain.

OBJECTIVE

Aim of this study is to compare pain scale during AV fistula puncture with femoral puncture in CKD patient who undergo hemodialysis.

METHODS

Design of this study is non-experimental quantitative study with comparative approach. The study was conducted in 5 days (20-14 May 2014) in Hemodialysis Unit of Dr. Margono Soekarjo Hospital. Samples were obtained by total sampling method as many as 110 patient with CKD which divided into two groups (40 AV fistulas and 70 femoral puncture), who undergo hemodialysis once-twice a week in the affiliated hospital. An 11-point Numerical Rating Scale (NRS-11) was used to measure pain scale. Measurements were conducted immediately after puncture, not longer than 10 minutes, while baseline data and anxiety level were conducted shortly before stabbing. Baseline data were collected using a questionnaire, while anxiety level were measured using NRS-11 for anxiety. The entire instrument was filled by researcher by asking directly to the participants in order to increase the compliance of data filling.

RESULTS

Result of this study shows the similarities of participant characteristic in both groups (Table 1). Greatest number on each characteristic in both groups were 35-65 years old (AVF 82,5% Femoral 81,4%), male sex (AVF 82,5% Femoral 58,6%), Javanese culture (AVF 100% Femoral 95,7%), frequency of HD 2 times a week (AVF 95% Femoral 85,7%), and history of HD >12 months (AVF 62,5% Femoral 34,3%) Rate of anxiety before needle insertion in femoral puncture group was higher than in AV Fistula puncture group (Table 2). Pain scale in femoral puncture group was also higher than in AV Fistula puncture group (Table 3). Result of statistical analysis using *Mann Whitney Test* shows a significant difference of pain scale between needle insertion in AV fistula group and needle insertion in femoral puncture group ($p=0,000$) (Table 4).

Table 1. Frequency Distribution of Age, Gender, Ethnic, Frequency of Hemodialysis, and Past History of Hemodialysis in Dr. Margono Soekarjo Hospital, May 2014 (n=110)

| No | Characteristic of Participant | AV (AVF) | | Fistula Femoral | |
|----|-------------------------------|-------------|------|--------------------|------|
| | | F | % | F | % |
| 1 | Age (Years Old) | | | | |
| | 20-34 | 5 | 12,5 | 9 | 12,9 |
| | 35-65 | 33 | 82,5 | 57 | 81,4 |
| | >65 | 2 | 5 | 4 | 5,7 |
| 2 | Sex | | | | |
| | Male | 33 | 82,5 | 74 | 67,3 |
| | Female | 7 | 17,5 | 36 | 32,7 |
| 3 | Ethnic | | | | |
| | Javanese | 40 | 100 | 67 | 95,7 |
| | Sunda | 0 | 0 | 1 | 1,4 |
| | Batak | 0 | 0 | 0 | 0 |
| | Other | 0 | 0 | 2 | 2,9 |

| No | Characteristic of Participant | AV (AVF) | Fistula | Femoral | |
|----|-------------------------------------|-------------|---------|---------|------|
| | | F | % | F | % |
| 4 | Frequency of HD in a week | | | | |
| | Once | 2 | 5 | 10 | 14,3 |
| | Twice | 38 | 95 | 60 | 85,7 |
| 5 | Past History of Hemodialysis | | | | |
| | >12 months | 25 | 62,5 | 24 | 34,3 |
| | 6-12 months | 8 | 20 | 12 | 17,1 |
| | 3-6 months | 5 | 12,5 | 11 | 15,7 |
| | 1-3 months | 2 | 5 | 18 | 25,7 |
| | <1 month | 0 | 0 | 5 | 7,1 |

Table 2. Tendency Value of Anxiety Level before Hemodialysis in Dr. Margono Soekarjo Hospital May 2014 (n=110)

| Vascular Access | n | Mean | Median | SD | Min- Max | 95% CI |
|------------------|----|------|--------|-------|-------------|---------------|
| AV Fistula | 40 | 2,15 | 2 | 2,058 | 0-6 | 1,49- 2,81 |
| Femoral Puncture | 70 | 3,87 | 4 | 2,724 | 0-10 | 3,22- 4,52 |

Tabel 3. Tendency Value of Vascular Access Puncture of Hemodialysis In Dr. Margono Soekarjo Hospital, May 2014 (n=110)

| Vascular Access | n | Mean | Median | SD | Min- Max | 95% CI |
|------------------|----|------|--------|-------|-------------|---------------|
| AV Fistula | 40 | 3,15 | 3 | 1,733 | 0-8 | 2,60- 3,70 |
| Femoral Puncture | 70 | 5,11 | 5 | 2,381 | 0-10 | 4,55- 5,68 |

Tabel 4. Result of Mann-Whitney Test to the Differences of Pain Scale between AV Fistula and Femoral Puncture In Dr. Margono Soekarjo Hospital, May 2014 (n=110)

| Variable | 95% CI | Z value | p value |
|--|-------------|---------|---------|
| Pain Scale of Vascular Access Puncture | 0,000-0,027 | -4,425 | 0,000 |

DISCUSSION

Puncture pain in vascular access is a personal sensation which often experienced by hemodialysis patient. The presence of pain was due to damage of tissue continuity on the skin surface until the blood vessel. When needle insertion was performed, the sensor of cutaneous neurons conducts impulses through the

pain pathway in the spinal cord spinothalamic tract (Putz & Pabst, 2006). Pain scale in femoral puncture was higher than AV fistula. It is due to the difference of location and depth of needle insertion which can influence the intensity of pain. Location of femoral vein was not visible from the skin superficial and very adjacent with femoral artery and femoral nodes which can lead to increasing the risk of puncture imprecision. The imprecision of femoral puncture can stimulate higher pain intensity due to longer procedures were performed. Too lower puncture (insertion under the branch of femoral vessels) can cause pseudo aneurysm, hematoma, and arteriovenous fistula. Too higher puncture (puncture in inferior epigastric vessel) and too deeper puncture (until broke the back wall of blood vessel) can cause retroperitoneal hemorrhage (Nakia, 2012).

AV fistula punctures causing less hemorrhage and hematoma. Bleeding during needle insertion was rarely occurring because the blood vessels are located in superficial area which ease the nurses to find the vascular access were required. Fistulas were made by connecting artery and vein. It causes vein dilated due to increase flow which coming from the arteries. Fistula makes the cannulation procedure easier because the size of the blood vessels was larger than the vein that was not modified into fistula (Nicola, 2003). The ease during performing cannulation procedure was related to the level of pain scale when needle inserted. The correct punctures of AV fistula will not cause many complications, so the level of pain scale will not increase. The correct puncture also did not need any repetition of puncture which causes increasing pain intensity.

The study also describes the characteristics of respondents and the level of anxiety that may affect the level of pain. In this study, the largest number of age group was 35-65 years old. There is no significant difference of age in both groups, so it does not show the possibility effect of age to pain scale. Gender on this study was dominated by male sex, but the percentage of female sex was greater in femoral puncture group than in AV fistula group. It may be a factor which affecting higher pain scale in femoral puncture group. Female sex have lower pain tolerance than male sex (Inserach *et al*, 2013).

Based on result of this study, type of ethnic which has greatest number in both groups was Javanese culture. It was related to the geographical location of Dr. Margono Soekarjo Hospital, which located in Banyumas District, Central Java. This is consistent with population census data which show that the greats number of ethnic in Central Java was Javanese culture (Leo *et al*, 2003). Both groups were has similar percentages of ethnic, so it cannot show the influence of ethnic to puncture pain scale.

This study show that the number of patient who performing hemodialysis twice a week was greater than patient who performing hemodialysis once a week in both group. However, the number of patient who performing hemodialysis once a week was 5 times greater in femoral puncture group than AV fistula group. It means that the number of puncture experience in femoral group was less than AV fistula group. It can be one factor of increasing pain scale in femoral puncture group. The experience of pain can affect level of pain also supported by the length of hemodialysis history data. The number of participant who undergoes hemodialysis less than 12 month was greater in femoral puncture group than AV

fistula group. It may affect the difference of pain scale in both groups. Participant, who had been performing hemodialysis less than 12 month, has less experience of puncture pain than participant who had been performing hemodialysis more than 12 month. The more experience of pain, the more pain tolerance (Inserach, 2013).

Anxiety in patients with chronic kidney disease who undergo hemodialysis was caused by a biological impairment and chronicity of the disease. In addition, anxiety was also caused by the cost of treatment that must be spent every week (Luana, 2012). Based on research conducted by Luana (2012), an anxiety level was decreased by increasing frequency and duration of hemodialysis history. Level of anxiety is also one of the factors affecting the puncture pain scale (Karen et al, 2007). The level of anxiety of participant in the AV fistula group was lower than femoral puncture group, so the pain scale in AV fistula puncture also lowers than the femoral puncture. This happens because anxiety can affect the limbic system, which acts as the control of emotions, which increasing the autonomic nervous system, especially the sympathetic nervous system. Autonomic nervous was related to the organs control unconsciously. These sympathetic nerve fibers were innervating the blood vessels, cardiac muscle, and whole organs such as the stomach, pancreas, and intestines, as well as serving on the motor fibers in unconscious muscles in the skin. Increased activity of sympathetic nervous will cause increasing muscle tension that can increase the pain perception of patient (Potter & Perry, 2005).

CONCLUSION

This study shows significant differences of puncture pain scale between AV fistula and femoral puncture. Mean value of the femoral puncture pain scale was higher than the mean value of AV fistula puncture pain scale. It also shows the differences in the mean value of anxiety levels. The mean level of anxiety in femoral puncture group was higher than AV fistula group. Baseline characteristics include age, sex, ethnicity, frequency of hemodialysis in a week, and the length of hemodialysis history were similar in both groups.

Nurses and other medical personnel are expected to provide adequate education to the patient and family to be able to determine the type of vascular access that causes lighter pain intensity and less of complications such as hematoma and bleeding during the cannulation. Nurses also need to consider the use of Buttonhole stabbing technique for AV fistula puncture. Besides, nurses are expected to provide non-pharmacological therapies such as relaxation techniques or distractions on the femoral puncture to reduce the puncture pain intensity.

REFERENCES

- Arif, M. (2008). *Buku Ajar Asuhan Keperawatan Klien dengan Gangguan Sistem Persarafan*. Jakarta: Salemba Medika
- Dewi, I Gusti APA. (2010). Hubungan antara quick of blood (Qb) dengan adekuasi hemodialisis pada pasien yang menjalani terapi hemodialisis di ruang HD BRSU daerah Tabanan Bali. *Tesis*. Universitas Indonesia
- Indonesian Renal Registry. (2011). 4th report of Indonesian renal registry 2011. www.pernefri-inasn.org. [diakses pada 14 April 2014]

- Inserach, RM., LumaGh, AZ., Inam, HT. (2013). Pain assessment immediately after venipuncture in adulthood. *Life Science Journal*; 10(2): 1901-1908
- Karen, B., Priscilla, L., Elaine, M. (2007). *Medical-Surgical Nursing Care*. Pearson Education Inc.
- Ketut, S. (2006). *Buku Ajar Ilmu Penyakit Dalam*. Ed.4. Jakarta: Pusat Penerbitan Departemen Ilmu Penyakit Dalam Fakultas Kedokteran Universitas Indonesia
- Leo, S., Evi, N., dan Aris, A. (2003). *Indonesia's Population Ethnicity and Religion in Changing Political Landscape*. Singapore: Institute of Shoutheast Asian Studies
- Luana, NA., Sahala, P., Joyce, VM., Ika, C. (2012). Kecemasan pada penderita penyakit ginjal kronik yang menjalani hemodialisis di Universitas Kristen Indonesia. *Media Medika Indonesia*; 43(3): 151-156
- Nakia, M., Linda M. (2012). Managing risk of complications at femoral vascular access sites in percutaneous coronary intervention. *Critical Care Nursing*; 32(5): 16-30.
- National Kidney Foundation. (2010). Vascular dysfunction, atherosclerosis insights and implications in chronic kidney disease, and vascular calcification insights and implications in chronic kidney disease. www.kidney.org. [diakses 9 November 2013]
- Nicola, T. (2003). *Renal Nursing Second Edition*. USA: Bailliere Tindall Elsevier
- Nuraeni, Nurlaily, I., Muhammad, I., Frans, L., Hasyim, K., Satriono, R. (2012). The correlation between total kidney volume based on ultrasonography and glomerular filtration rate in chronic kidney disease patients. www.pasca.unhas.ac.id/jurnal. [diakses pada 4 Juni 2014]
- Potter, P., Perry, A. (2005). *Buku Ajar Fundamental Keperawatan Konsep, Proses, dan Praktik*. Jakarta: EGC
- Putz, R., Pabst, R. (2006). *Sobotta: Atlas Anatomi Manusia*. Ed.22. Jakarta: EGC
- Slamet S. (2001). *Buku Ajar Ilmu Penyakit Dalam*. Ed.3. Jakarta: Balai Penerbit FKUI

THE EFFECT OF SELF CARE MODEL "OREM" APPLICATION TO THE LEVEL OF FAMILY INDEPENDENCE IN PULMONARY TUBERCULOSIS TREATMENT

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ABSTRACT

Background: Pulmonary Tuberculosis (TB) is a chronic disease which can be one focus of the problems in the health sector in Indonesia and in the world. Success in the treatment of patients with pulmonary TB must not be separated from appropriate treatment. Orem theory states that the basic condition factors includes internal and external factors that affect a person's ability to care for himself such as age, sex, socio-cultural orientation, health status, and family systems. Factors basic conditions and self-care from the patients in the end will affect the individual's health condition, including perceptions of the quality of personal life and achievement of metabolic control. Therefore, this systemic review would evaluate the effect of self care model "orem" application to the level of family independence in treating patients with Pulmonary Tuberculosis (TB).

Methods: This research use a mixed-method systematic review, which is the literature review method of several types of scientific articles, quantitative or qualitative research, related to the objectives and research questions. The findings of the literature were then summarized using the Snowdon's Critical Appraisal method and discussed to synthesize the conclusion.

Result: In order to promote and improve the ability of patients to perform self-care, the family is one of the most important factor. An open communication, the provision of assistance to the patient's needs and the encouragement to stay involved in social activities should be carried out by the family to the patient (Faulkner 2007). A medical education is needed to reduce the wrong stigma about the transmission of TB disease that has been spreading fear among the families in caring TB patients independently (Freitas, 2012; Ministry of Health, 2011). Nursing systems must also be designed in order to create a good environment that supports the patient to increase self-care ability. Nursing system that needs to be developed are (Yani et al., 2012): 1) the action estimation, 2) transitive actions, and 3) the productive action. And to support the nursing system, the use of Jo Pre-Training Assessment Tool (JPAT) can help to identify the patients who are able (ready) to do the Home hemodialysis / HHD (self-care at home), thereby potentially increasing the number of HHD patients (Visaya 2015).

Conclusion: application of self care "Orem" could increase the family independence in the treatment of Pulmonary Tuberculosis

Keywords: Orem Model, self-care, pulmonary tuberculosis

BACKGROUND

Pulmonary Tuberculosis (TB) is one of a health major problem for both in Indonesia and in the world. WHO stated that TB has become a global threat. In 2013, 9 million people infected by this disease, and 1.5 million of them died. Various efforts are deployed, covering diagnosis and effective treatment, to reduce the incidence and mortality due to TB disease. Proven since the year 2000-2013, there were as many as 37 million people saved because of early diagnosis and treatment (WHO, 2014).

Indonesia alone, since 2010 was being ranked as the fifth country with the highest TB burden in the world. The estimated prevalence of TB cases is 660,000 and the estimated incidence amounted to 430,000 new cases per year. The number of death caused by TB estimated to 61,000 deaths per year (Health Ministry of Indonesia, 2011). Although having a high burden of TB disease, according to the report from the Health Ministry of Indonesia (2011), Indonesia is the first country among the High Burden Country (HBC) in the WHO South-East Asian that capable of reaching global targets for TB case detection and treatment success in 2006 . In 2009, there have been a number of 294 732 cases of TB have been found and treated (preliminary data in May 2010) and more than 169,213 of them are detected BTA+. Thus, Case Notification Rate for TB BTA+ is 73 per 100,000 (Case Detection Rate 73%). The mean achievement of treatment success rate during the last 4 years are approximately 90% and in a cohort of 2008 reached 91%. The global target achievement is a milestone of the primary national TB control program.

The success on the treatment of pulmonary TB patient must not be separated with the appropriate care practices. TB prevalence survey regarding knowledge, attitudes and behavior by the Health Ministry of Indonesia in 2004 shows that 96% of families are caring their family member who suffer from tuberculosis and only 13% who hide their existence. Although 76% of the families had heard of TB and 85% know that TB can be cured, only 26% were able to mention two main diagnostic and symptoms of TB. Mode of transmission of TB was understood by 51% of families and only 19% knew that free TB drugs are available. Seeing those patterns, then the nursing education about self-care to the families is one of the key factor in decreasing the incidence and mortality rate of pulmonary TB patients in Indonesia.

This self-care problem has been proposed by Orem. Dorothe Orem is a nurse who is very well known by her nursing theories, which includes the self-care theory, self -care deficit theory, and the theory of nursing systems. In the theory of self-care she said that when it is possible, someone will try to take care of themselves (Orem, 2001). Orem (2001) stated that self-care is a human regulatory function that should be done by individuals, by using judgment, for themselves or done by others for them (dependent care), in order to maintain physical and mental function and development in an appropriate norms, with basic conditions for life. Orem theory stated that the basic condition factors includes internal and external factors that affect a person's ability to care for themselves such as age, sex, socio-cultural orientation, health status, and family system. Basic conditions factors of this kind of self-care and participation of people will affect

the individual's health condition, including perceptions of the quality of personal life and achievement of metabolic control.

Based on the above reasons, then this systemic review will evaluate the effect of the Orem self-care model application to the level of independence of the family in caring for patients with Pulmonary tuberculosis (TB), using the related literature review.

OBJECTIVE

a. General Purpose

Knowing the effect of Orem self-care model application to the level of family independence in caring and supporting the healing of pulmonary TB patient.

b. Specific Purpose

- 1) Determining the effect of Orem self-care model application to the level of family independence in caring the pulmonary TB patient.
- 2) Determining the appropriate model of self-care "Orem" application for the prevention and healing of pulmonary TB patient in the family.

METHODS

In this systemic review, the used method was a mixed-method systematic review, a kind of literature review that using several types of scientific articles such as quantitative and qualitative research journals, related to the objectives and research questions. The mixed methods approach to conducting systematic reviews is a process whereby (1) comprehensive syntheses of two or more types of data (e.g. quantitative and qualitative) are conducted and then aggregated into a final, combined synthesis, or (2) qualitative and quantitative data are combined and synthesized in a single primary synthesis. Mixed methods reviews represent an important development for all individuals involved in evidence-based health care. That being said, Sandelowski et al. (2012) suggest that such mixed methods reviews are particularly relevant to international organizations because they: "...broaden the conceptualization of evidence, [are] more methodologically inclusive and produce syntheses of evidence that will be accessible to and usable by a wider range of consumers." Through the development of well-structured mixed method systematic reviews, the numerical strength inherent in the positivist paradigm can fuse with the less tangible yet equally important opinions and perspectives presented in interpretive and critical paradigms, producing far more informative conclusions than those derived from evidence presented in autonomous modes of synthesis. By following a systematic methodology for combining quantitative and qualitative data, the requirement for interpretation is reduced, thereby increasing the objectivity of subsequent conclusions.

The literatures were obtained through online media such as Googlesearch, Sciencedirect.com, and Proquest.com. The selected literatures were limited to 2007-2014, which can be accessed full text in pdf format. The literature review had four steps: (1) searching for abstracts, (2) selecting articles for inclusion through a relevancy rating process, (3) classifying and rating the selected articles, and (4) synthesizing and validating them. The initial goals were to ensure a broad capture of a relatively new and poorly defined field and then to

identify a final set of the highest-quality and most relevant articles through a consensus screening of abstracts and a selection of articles. The level of evidence from each literature was measured and the findings were summarized using the Snowdon's Critical Appraisal method that used for criticizing and synthesizing the conclusions on the research discussion.

RESULTS

1. Application of Orem Self Care Model In the Healing Process of Chronic Disease Patient

Orem self-care theory has been widely known in nursing education, but the effect of its application in the healing process of chronic disease can be varied, depending on the type of disease and patient characteristics. Therefore, several studies to determine the effect and the proper application model for healing process of different chronic diseases has been conducted, taking into account the differences of patient characteristics.

Ropyanto (2014) revealed that the application of Orem Self Care models in patients with disorders of the musculoskeletal system can improve the patient independence in caring for themselves. However, the application of this method should pay attention to the element of physiological, psychological, and culture of the patient as a whole package, because different patients may require different method of implementation. Likewise Moghadam and Nasiri (2014) which also saw the positive impact of nursing assistance program based on the Orem theory that can encourage the patients to participate in self-care and reduce dependence on various aspects in hemodialysis patients.

According Bhanji (2012) the Orem theory of self-care is the most suitable theory to be applied to clinical practices. The same statement also expressed by Apay (2015). Orem assessment approach according to Clark (1986) is the perspective from a variety of sources where patients, families, nurses, and health records should be involved. The ability of self-care is determined by several factors such as age, sex, stage of development, health status, socio-cultural orientation, financial resources, and others.

In order to implement self-care model to patients, of course, the role of the nurse (nursing system) is also one of the important part that cannot be ignored. According to Sales (2015), care assistance measures needs to be done to the patients and families in order to minimize the impact of the disease. In developing a therapist relationship, nurses must demonstrate a genuine interest to the patients, must be committed to the patients, show concern (interest) on the patients thought, life status, as well as the suffering of the patients, in addition to providing solutions to their problems. This is also consistent with the views expressed by Munawaroh (2012).

2. The Role of Families in Self-care Ability of Pulmonary Tuberculosis Patient

In Orem self-care theory (2001), the family is one of important factor that can influence patient's ability to care themselves (self-care ability). However, it can give different impact for different patient and different diseases, therefore a various research was conducted related to the influence of the family in self-care ability of various chronic diseases patient. Based on Permatasari's et al. (2014) research result, it can be noted that family support is one the aspect that affects the success of self-care ability and healing improvement in elderly hypertensive patients. A similar study has been conducted by Ratnasari (2004) on the relation of social support with quality of life in patients with pulmonary tuberculosis. Based on Ratnasari (2004) research noted that the support of family and society has a big role in improving treatment adherence. As many as 80% of patients have positive expectations and able to adjust to their environment. Most of the respondents with positive expectations have a faith that even though they have a heavy pulmonary TB disease, it still can be cured as long as they adhere to the given treatment. PMO existence (someone who is trusted both by patients themselves or by the medical personnel), who will participate in supervising the patient is expected to greatly help the patients to behave positively, so they can support the healing process. In this research, it is known that there was a significant relationship between social support and quality of life. Positive correlation indicates that the greater the social support, the greater the quality of patients' life. These results are consistent with the theory about the influence of social support, one of which is the indirect influence where social support can affect the stress level faced by the individual through social acceptance that can affect self esteem. Self esteem will affect the mental health of a person.

From the research conducted by Yani (2012), noted that pulmonary tuberculosis patient adherence to a healthy behavior improved significantly after receiving treatment with DOTS program-based family support. Faulkner (2007) also revealed that the behavior of a warm and caring family is the most influential factor in the participation of self-care, which also contributes to the perception of fears, the impact of diabetes, as well as a better quality and satisfaction of life.

In other studies it is known that pulmonary tuberculosis patients who came for treatment, most of them have a high motivation from the family and they are obedient in treatment. In fact there is a relationship between family motivations with the treatment compliance in patients with pulmonary TB in RSU A. Makassar, Parepare (Palinggi, 2013).

DISCUSSION

From the above research results we know that in order to promote the ability of patient, particularly patients with pulmonary tuberculosis in performing self-care, assistance from family and medics (nurses) are important factors that need to be considered. The question is what kind of family conditions that can help to increase the chances of success healing in patients with pulmonary

tuberculosis? And how is the appropriate nursing assistance that can increase the independence of the family and the patient in performing self-care?

In terms of supportive family conditions, Faulkner (2007) said that an open communication within the family, providing assistance to the needs of the patients, and encourage them to stay engaged in social activities will be able to improve the quality of life in patients. However, the results of Freitas' research (2012) noted that pulmonary TB patient's family knowledge with respect to the transmission of the disease through the shared use of household appliances is still wrong. TB patients revealed their relatives feel shame of having the disease. This information is clear indicator of social stigma, and the authors consider it as a major challenge to control the disease. Such a fact virtually requires measures that go beyond the biological body and move toward changes in values, ideologies and conceptions of society. Freitas' study shows the stigma and resulting discrimination has a double impact on TB control. The first one refers to the concepts about TB, leading many individuals to defer their visit to the services due to fear of diagnosis or the negative representation of the disease in the community. So, they deny their diseased condition. Due to diagnosis delay, these individuals may develop more severe symptoms of the disease that are more difficult to treat, and they might infect many individuals in the community. Second, during the treatment many individuals are afraid of being identified as "TB" patients in health services and by the community members. Then, they abandon the treatment and favor the development of resistant multidrug strain. It is worth noting TB was perceived by the families as a disease that can affect all their members, and even compromise their social relations. A study showed that although there is an idealization of the right behavior with the TB patient, nowadays, narratives have ratified various constraints and conflicts experienced by families in the community. The authors emphasize although patients make efforts to manage a problem affecting the social relations, it prevails in each individual a deep self-esteem weakening, expressing resignation attitudes towards the disease, and justifying the grief of those families facing the expression to decode the coexistence with a TB patient. This research brings important aspects that need to be considered in the care plan of the teams, Knowledge and perception about tuberculosis of patients' families which refer to the inclusion of families. This is how the TB patient finds strength and support for his rehabilitation, and when he does not feel supported he could give up the therapy and himself.

Those research are in line with the results of a survey conducted by the Health Ministry of Indonesia (2011) about the myth of TB transmission that still be a common fault in the community. This sort of thing is certainly going to make the family feel reluctant to support or implement the appropriate treatment for the pulmonary TB patients. TB stigma in the community must be reduced by improving the knowledge and perceptions about TB, reduce TB myths through campaigns on specific groups and create education materials that relate to local culture. In this case, the involvement of the nurse (medical institutions) is required. As explained by Howyida et al. (2012), the independence of the family and the patient in performing self-care cannot stand alone, there must be a proper

assistance from the nurse (medical institutions). From the results of research it is known that after counseling, there was a significant improvement in the patient's physical, social, and psychological. Researchers recommend for health education measures in all cases of adult patients with pulmonary tuberculosis to improve knowledge and practices, relating to the management of TB disease self-care at home.

The appropriate method of teaching and nursing system was proved to increase the willingness and ability of patients and families in performing self-care (Wong, 2015; Kaur S, 2009; Gumeyi, 2010). Then, how is the appropriate nursing system? Yani et al. (2012) says that there are four methods that can be used for the implementation of programs to improve adherence of healthy behavior in patients with pulmonary tuberculosis which includes teaching, coaching, supporting, and providing an environment to develop a nursing system. Nursing system that needs to be developed are: 1) the estimation of action (to help clients gain an understanding of the causes and impact of TB, information about treatment / exercise / diet for TB patients), 2) transitive actions (helping the decision making on client care activities by providing selection and discuss its advantages and limitations), and 3) productive action (encourage clients to make a plan of action in the treatment of patients).

On the other hand, based on Abreu's research (2015), noted that confusion often occurs in recording on the concept of the dependence degree in self-care of patients by nurses. Though it is very important to promote self-care and develop clinical assisting system. Visaya (2015) also argued that the use of Jo Pre-Training Assessment Tool (JPAT) can help to identify patients who are able (ready) do the Home hemodialysis / HHD (self-care at home), thereby potentially increasing the number of HHD patients.

CONCLUSION

Application of "Orem" self-care model proved to be very beneficial to the healing process of patients with chronic diseases, especially pulmonary tuberculosis patients. In order to promote and improve the ability of patients to perform self-care, the family is one of the most influential factors. An open communication, the provision of assistance to the needs of the patient and the encouragement to stay involved in social activities should be carried out by the family to the patient (Faulkner 2007). And to be able to create conducive family condition in improving the patient's ability to perform self-care, the assistance from the nurses (medical institutions) is required. Appropriate education is needed to reduce the wrong stigma about the transmission of TB disease that has been spreading fears in the family to care for TB patients independently (Freitas, 2012; Health Ministry of Indonesia, 2011). In addition to education, nursing system should also be designed in order to create a good environment that supports the patients to improve their self-care ability. Nursing system that needs to be developed are (Yani et al., 2012): 1) the estimation of action (to help clients gain an understanding of the causes and impact of TB, information about treatment / exercise / diet for TB patients), 2) transitive actions (helping the decision making on client care activities by providing selection and discuss its advantages and

limitations), and 3) productive action (encourage clients to make a plan of action in the treatment of patients). And to support the nursing system, Visaya (2015) said that the use of Jo Pre-Training Assessment Tool (JPAT) can help to identify patients who are able (ready) do the Home hemodialysis / HHD (self-care at home), thereby potentially increasing the number of HHD patients. With education and nursing support system, which was developed on the basis of appropriate "Orem" self-care theory, as well as the adjustments to the patient's condition, it will be very possible to create a supportive family condition and a strong willingness of the patients to perform self-care independently, which in turn will have a positive impact for the patient's healing process.

REFERENCES

- Abreu, W., et.al. (2015). Promotion of Self-Care in Clinical Practice: Implications for Clinical Supervision in Nursing. *International Journal of Information and Education Technology*, 5(1).
- Andriany, M. (2007). Aplikasi Teori *Self-Care Deficit* Orem dalam Konteks Tuna Wisma (Studi Literatur). *Jurnal UNDIP*, 1(1).
- Apay, S.E., et.al. (2015). The Effect of the Care Given Using Orem's Self-Care Model on the Postpartum Self- Evaluation. *International Journal of Caring Sciences*. 8(2).
- Bhanji, S.M. (2012). Comparison and Contrast of Orem's Self Care Theory and Roy's Adaptation Model. *Journal of Nursing 2012*, 1(1).
- Faulkner, M.S., et.al. (2007). Family Influence on Self-Care, Quality of Life, and Metabolic Control in School-Age Children and Adolescents with Type 1 Diabetes. *Journal of Pediatric Nursing*, 22(1).
- Freitas, I.M., et.al. (2012). Knowledge And Perception About Tuberculosis Of Patients' Families Under Directly Observed Treatment At A Health Service In Ribeirão Preto-Sp, Brazil1. *Text Context Nursing, Florianópolis*, 21(3).
- Gumeyi, S.C. (2010). Relationship Between Knowledge And Self-Care Practices Regarding Tuberculosis Treatment Among Clients Aged 20 – 40 Years At Beatrice Road Infectious Hospital Outpatient Clinic. *Dissertation of Masters' Degree Program in Nursing Science, Department of Nursing Science, Faculty of Medicine, University of Zimbabwe*.
- Health Ministry of Indonesia (Kemenkes RI). (2011). Strategi Nasional Pengendalian TB Di Indonesia 2010-2014. *Kementerian Kesehatan Republik Indonesia Direktorat Jenderal Pengendalian Penyakit dan Penyehatan Lingkungan*.
- Howyida, S., et.al. (2012). Effect of Counseling on Self-Care Management among Adult Patients with Pulmonary Tuberculosis. *Life Science Journal*. 9(1).
- Kaur, S., et.al. (2009). Evaluation of a 'Supportive Educative Intervention' on self care in patients with bronchial asthma Nursing and Midwifery. *Research Journal*. 5(2).
- Moghadam, M.P., and Ahmad, N. (2014). The Effect Of Self- Care Program On The Dependence Of Hemodialysis Patients Based On Orem's Self-Care Theory. *International Journal of Current Life Sciences*. 4(12).

- Munawaroh, S. (2012). Penerapan Teori Dorothea E. Orem Dalam Pemberian Asuhan Keperawatan. *Fakultas Ilmu Kesehatan, Universitas Muhammadiyah Ponorogo*.
- Orem, D. (2001). *Nursing concepts of practice (6th edition)*. St. Louis: Mosby.
- Palinggi, Y., et.al. (2013). Hubungan Motivasi Keluarga Dengan Kepatuhan berobat Pada Pasien Tb Paru Rawat Jalandi RSUD A. Makkasau Pare-Pare. *Jurnal STIKES Nani Hasanuddin Makassar*. 2(3).
- Permatasari, L.I., et.al. (2014). Hubungan Dukungan Keluarga Dan *Self Efficacy* Dengan Perawatan Diri Lansia Hipertensi. *Jurnal Kesehatan Komunitas Indonesia*, 10(2).
- Ratnasari, N.Y. (2004). Hubungan Dukungan Sosial Dengan Kualitas Hidup Pada Penderita Tuberkulosis Paru (Tb Paru) Di Balai Pengobatan Penyakit Paru (Bp4) Yogyakarta Unit Minggiran. *Jurnal Tuberkulosis Indonesia*, 8
- Ropyanto, C.B. (2014). Analisis Penerapan Teori *Self Care* Orem Pada Asuhan Keperawatan Pasien Dengan Gangguan Sistem Muskuloskeletal. *Prosiding Konferensi Nasional II PPNI Jawa Tengah*.
- Sales, D.S., et.al. (2013). Nursing Care According To The Orem's Theory: Care For A Patient With Bipolar Affective Disorder. *Journal of Research Fundamental Care On Line*. 5(3).
- Sandelowski M, Voils CI, Barroso J. (2006). Defining and Designing Mixed Research Synthesis Studies. *Res Sch* 13(1).
- Visaya, and Marie A. (2010). Hemodialysis Patients' Perceptions Of Home Hemodialysis And Self-Care. [Journal ACITN](#). 20(2).
- WHO. (2014). Global Tuberculosis Report Fact Sheet. Retrieved from http://www.who.int/tb/publications/factsheet_global.pdf.
- Wong, C.L., et.al. (2015). Examining Self-Care Behaviors and Their Associated Factors Among Adolescent Girls With Dysmenorrhea: An Application of Orem's Self-Care Deficit Nursing Theory. *Journal of Nursing Scholarship*. 47(3).

A LITERATURE REVIEW: MODERATE PRESSURE MASSAGE THERAPY AS A CONTINUED INTERVENTION FOR PRETERM INFANTS AT HOME

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ABSTRACT

Background: Preterm infant massage has been used as an alternative intervention that has a positive effect on the growth and development. Moderate versus light pressure massage group gained more weight per day, and as suggested during behavior observation that followed the massage they showed significantly less active sleep, fusing, crying, movement, stress behavior (hiccupping), lower heart rate and greater vagal activity. Various studies have been done related to preterm infant massage and have proven that moderate pressure specifically provides benefits but only limited research in order hospital services.

Purpose: This literature study was conducted to determine the effectiveness moderate pressure massage therapy as a continued intervention for preterm infants at home.

Methods: This review used several databases such as EBSCHO, Science Direct. Searching is limited publication in 2005- 2014 with format of full PDF. Key words to search this review are moderate, massage therapy, preterm infants, long-term care. This study needed to identify the effects of moderate pressure massage therapy in preterm infants by using systematic review design. Systematic review has a value bias. Analyze article by using critical appraisal tools for CRT research to assess the quality research.

Results: The literature study shows have high quality and moderate quality. All four literatures suggest that moderate pressure massage performed by a mother is as effective as the one performed by a therapist. Moderate pressure massage therapy as an intervention for preterm infants as long term care at home, it's to achieve maximum growth and development in preterm infants.

Conclusion: Moderate pressure massage therapy can be done by mother or father independently. Massage therapy not only can reduce the incidence of sepsis and strengthen the bonding attachment, but also it is easy to do and relatively low in cost. Moderate pressure massage therapy becomes one of alternative interventions or fixed procedures of preterm infant care both in hospitals and at home.

Keywords: moderate, massage therapy, preterm infants, long term care.

BACKGROUND

Massage therapy is one of the most effective used alternative therapies. Massage is defined as a systematic touch by human hands, which stimulates the tactile sense of the infant and which has been documented for several decades to have a positive effect on both full term and preterm infants (Field, Diego, & Hernandez-Reif, 2010a). For preterm infants studies have documented increased weight gain. One of massage's kind is moderate pressure massage that has contribute to increased weight gain in preterm infants. Preterm infants need for supplemental stimulation after such as massage therapy for optimal growth and development and importance of conveying that to medical community so it can be. moderate pressure massage therapy can also decrease the days infants spent in the Neonatal Intensive Care Unit (NICU) and relieve pain in preterm infants (Abdallah, Badr, & Hawwari, 2013).

Moderate pressure massage continued intervention preterm infants at home after they have been got the home after caring in hospital and included in developmentally supportive intervention. It can be treated by their mother and other another family member such as father or grandmother after getting training of nurse in hospital before getting home. In study, that moderate versus light pressure massage group gained more weight per day, and as suggested during behavior observation that followed the massage they showed significantly less active sleep, fusing, crying, movement, stress behavior (hiccupping), lower heart rate and greater vagal activity (Field, Diego, & Hernandez-Reif, 2007) a lot of benefits and easy in implementation moderate pressure massage can be continued as an alternative intervention to all mothers in caring preterm infant at home. This method increases bounding between mother and infant.

OBJECTIVE

To review the effectiveness of moderate pressure massage therapy as the continued intervention of preterm infants at home.

METHODS

This is a literature review. Studies were collected from searching in EBSCO by specifying the following fields in the medline with full text search. EBSCO was searched using combination keywords as: (preterm infant massage therapy, moderate pressure massage in preterm infant, kinesthetic stimulation in preterm infants, the efficacy of massage to preterm infant). The inclusion criteria for the article were: using a randomized controlled trial, preterm infant population, its moderate compared to light massage, the result measured the response of behavior, weight gain, pain, and sleep. This assessment was done using a tool for CASP RCT. Quality assessment study was done on an individual basic. At least 4 relevant articles were selected for review. After finding some results to these searches, the references and articles were chosen and checked in accordance with inclusion criteria. At least 4 relevant articles were selected for review.

RESULTS

Search research articles associated with moderate pressure massage therapy identified by systematic review there are 3 articles, with RCT 1 article. The characteristics of the data obtained is of moderate pressure massage therapy done in the NICU (n = 4). The interventions provided with moderate pressure vs.

light pressure ($n = 3$), tactile/kinesthetic stimulation ($n = 1$). The results obtained for baby to gain weight ($n = 4$), the behavior of infants ($n = 4$), increased vagal activity ($n = 4$), decreased pain, motor and mental developmental (see table 1)

DISCUSSION

Massage therapy is one of the most effective and widely used alternative therapies. Massage therapy has the advantages of being noninvasive, inexpensive and safe. Preterm infant massage is important because of preterm infants need for supplemental stimulation such as massage therapy for optimal growth and development and the importance of conveying that to the medical community so that it can be adopted into practice (Pepino & Mezzacappa, 2015).

Moderate pressure massage therapy has been noted to be more effective than light pressure therapy for both adults and infants. In a study comparing preterm infants receiving moderate pressure therapy versus those receiving light pressure massage, the moderate pressure group gained more weight and showed increased vagal activity and gastric motility during and after treatment. (Field, Hernandez-Reif, & Diego, 2006)

Moderate pressure massage (moving the skin) was used twice per day for a one-week period. After we documented preterm infant weight gain following massage in several studies, we reported data showing increased vagal activity and gastric motility, which could be leading to more efficient food absorption and increased weight gain. The moderate pressure massage therapy group had greater increases in: 1) weight gain; 2) serum levels of insulin; and 3) serum levels of IGF-1. Path analyses suggested that increased vagal activity was associated with increased gastric motility, which, in turn, was related to greater weight gain, and increased IGF-1 was also related to greater weight gain. The increased vagal activity during the massage contributed to 49% of the variance in the increased gastric activity. And, the increased vagal activity during the massage explained 62% of the variance in the increase in insulin levels. These findings suggested two potential pathways by which massage can increase weight gain: 1) insulin release via the celiac branch of the vagus; and 2) increased gastric activity via the gastric branch of the vagus. Temperature increased more in the preterm neonates receiving massage, even though the incubator portholes were open during the 15-min massage therapy sessions (which would be expected to lower their temperature). This likely resulted from the heat producing effect of rubbing the skin. In that study, the moderate versus light pressure massage group gained more weight per day, and, as suggested, during behavior observations that followed the massage they showed significantly less: 1) active sleep; 2) fussing; 3) crying; 4) movement; and 5) stress behavior (hiccupping). All of these changes suggested lower arousal, which, in turn, could explain the enhanced immune function noted in preterm neonates following massage in a study on delayed-onset sepsis. In that study, mothers massaged their infants on the face and limbs as well as passively exercised their upper and lower limbs four times a day. A potential pathway for the moderate pressure massage effects may be increased vagal activity, decreased cortisol, enhanced immune function and reduced sepsis. Inflated pro-inflammatory cytokines such as IL-1, IL-6 and TNF-alpha should also be

measured for their contribution to sepsis and their potential reduction by moderate pressure massage (Field, 2014).

Moderate pressure massage therapy for long term care including home care should be done by the mother. According to a study has documented equivalent effects of professionals and mothers performing the preterm infant massages study replicated the results of increased weight gain following massage therapy by both mothers and professionals (Field, Diego, & Hernandez-Reif, 2010b).

CONCLUSION

The result of this review indicate that moderate massage therapy have many benefits for stable preterm infants such as have less irritability and sleep disturbance during the first several months, increase weight again and serum level of insulin because of more efficient food absorption, the massage also showed infants significantly less fussing, crying, movement, stress behavior (hiccupping), and active sleep. The positive effect of massage is on growth and development for preterm infant underlying for implementation as the continued intervention of preterm infants at home. This is recommended considering that the intervention is easy, inexpensive, and can improve bonding between mother and infant.

REFERENCES

- Abdallah, B., Badr, L. K., & Hawwari, M. (2013). The efficacy of massage on short and long term outcomes in preterm infants. *Infant Behavior and Development*, 36(4), 662–669. doi:10.1016/j.infbeh.2013.06.009
- Field, T. (2014). Massage therapy research review. *Complementary Therapies in Clinical Practice*, 20(4), 224–9. doi:10.1016/j.ctcp.2014.07.002
- Field, T., Diego, M., & Hernandez-Reif, M. (2007). Massage therapy research. *Developmental Review*, 27(1), 75–89. doi:10.1016/j.dr.2005.12.002
- Field, T., Diego, M., & Hernandez-Reif, M. (2010a). Preterm infant massage therapy research: A review. *Infant Behavior and Development*. doi:10.1016/j.infbeh.2009.12.004
- Field, T., Diego, M., & Hernandez-Reif, M. (2010b). Preterm infant massage therapy research: A review. *Infant Behavior and Development*, 33(2), 115–124. doi:10.1016/j.infbeh.2009.12.004
- Field, T., Hernandez-Reif, M., & Diego, M. (2006). Newborns of depressed mothers who received moderate versus light pressure massage during pregnancy. *Infant Behavior and Development*, 29(1), 54–58. doi:10.1016/j.infbeh.2005.07.004
- Pepino, V. C., & Mezzacappa, M. A. (2015). Application of tactile/kinesthetic stimulation in preterm infants: a systematic review. *Jornal de Pediatria*, 91(3), 213–233. doi:10.1016/j.jped.2014.10.005

Table 1

| Research | Method | Objective and starting condition | Description of the technique | Main variables | Measured | Result achieved statistical significance/ summary of the finding |
|-------------------------------------|----------------------|--|---|---|--|--|
| Venesa c Pepino, et al (2015 | Systematic review | To very To verify the methods used by the clinical trials that assessed the effect of tactile/kinesthetic stimulation on weight gain in preterm infants and highlight the similarities and differences among such studies. | 1. Massage premature newborn 2. tactile kinesthetic stimulation premature 3. tactile stimulation premature 4. massage premature growth 5. kinesthetic stimulation premature growth 6. tactile kinesthetic stimulation premature growth | 1. weight gain 2. frekuenc 3. sensory motoric 4. temperatur e regularly 5. pain score | - | There were many differences in the application of tactile/kinesthetic stimulation techniques among studies, which hindered the accurate reproduction of the procedure. Also, many studies did not describe the adverse events that occurred during stimulation, the course of action taken when such events occurred, and their effect on the outcome. |
| Bahia Abdalah, et al (2013) | A quasi experimental | Premature infants lack the tactile stimulation they would have | 32 infants received the massage therapy by their mothers. Data collection by a researcher blind to | 1. Physiologi c reaction 2. Perinatal risk status 3. Pain 4. Weight | 1. monitored through oxygen saturation, heart rate and respiratory rate by using the electrocardiography | P< 0,05 on PIPP on discharge ang mental scores |

| Research | Method | Objective and starting condition | Description of the technique | Main variables | Measured | Result achieved statistical significance/ summary of the finding |
|----------|--------|--|--|---|---|--|
| | | otherwise experienced in the womb. Infant massage is a developmentally supportive intervention that has been documented for several decades to have a positive effect on both full term and preterm infants. The purpose of this study was to assess the short and long term benefits of massage | the infants' group assignments included weight at discharge, pain responses on the PIPP scale at discharge, length of stay in hospital, neuro-developmental outcome (Bayley scores) and breastfeeding duration at 12 months corrected age. | gain 5. Duration of breastfeeding 6. Motor and mental development | monitor and the pulse oximeter and recorded 2. Score for Neonatal Acute Physiology Perinatal Extension-II (SNAPPE II) 3. Premature Infant Pain Profile (PIPP) scale 4. Was calculated by two methods: one method was the average daily weight gain and the second method 5. was average weight gain during the NICU stay (calculated as weight at discharge minus birth weight divided by length of 6. stay (LOS) in the | |

| Research | Method | Objective and starting condition | Description of the technique | Main variables | Measured | Result achieved statistical significance/ summary of the finding |
|-----------------------------|--------|----------------------------------|--|--|--|---|
| | | on stable preterm infants. | | | NICU in days) 7. assessed at one year during the follow up visit 8. assessed at one year, corrected age for all infants using the Bayley scales (Bayley, 1969) | |
| Tiffany Field, et al (2006) | review | Preterm infant | moderate and light pressure massage have been compared in laboratory studies | 1. weight gain 2. pain syndrom 3. Potential underlying mechanisms for moderate pressure 4. massage reducing pain 5. EEG and other correlates | - | 1. moderate versus light pressure massage from their mothers gained more weight and had better development over the first month of life. During the first several months, infants who are massaged have less irritability and sleep disturbance which are the most common complaints to pediatricians. 2. The moderate pressure massage group experienced decreased pain (by 48%) during the exercises |

| Research | Method | Objective and starting condition | Description of the technique | Main variables | Measured | Result achieved statistical significance/ summary of the finding |
|-----------------------------|--------|---|--|--|-------------------|---|
| Tiffany Field, et al (2010) | review | preterm infant massage therapy studies are reviewed | Research on ways of delivering the massage is also explored including using mothers versus therapists and the added effects of using oils. The use of mothers as therapists was effective in at least one study. | <ol style="list-style-type: none"> 1. Using mothers as the therapist 2. Oil enhances massage therapy effects 3. Hospital cost savings | Moderate pressure | <ol style="list-style-type: none"> 1. Over the 10-day study period, the two treatment groups gained significantly more weight compared to the control group suggesting that mothers were able to achieve the same effect as that of trained professionals. In addition, the mothers who massaged their infants in this study experienced a decrease in depression symptoms, which are often seen in mothers of preterm infants. In our study using mothers as the massage therapists, even one session was effective in lowering both the mothers' depression and anxiety symptoms 2. This study showed that topically applied oil could be absorbed in neonates and is probably available for nutritional purposes. The fatty acid constituents of the oil can influence the changes in the fatty acid profiles of the massaged babies 3. The greater weight gain documented by several investigators is associated with 3–6 days shorter hospital stay |

THE EFFECTIVENESS OF THE PINWHEEL TOY TOWARD COOPERATIVE BEHAVIOR OF PRESCHOOL DURING INFUSION PROCEDURE IN ROEMANI MUHAMMADIYAH HOSPITAL SEMARANG

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ABSTRACT

Background : Infusion procedure was invasive intervention that cause distress in a children, such as uncooperative behavior. If the children was uncooperative, the care would be not optimal. Nurses had to did atraumatic care, the example was distraction. Breathing exercise distraction applied to Pinwheel toy.

Objective : The aim of this study was to analysis the effectiveness Pinwheel toy toward cooperative behavior of preschool children during infusion procedure.

Methods : This Method was quantitative, quasi experiment (randomize control trial), post-test-only control group design. The sample were 3-6 years old children who required infusion procedure. A Total participants were 24 consist to 12 participants control group and 12 participants experiment group. The cooperative behavior measurement was behavior observation sheet.

Results : The result there was significant effect of Pinwheel toy to cooperative behavior in preschool children during infusion procedure in the Roemani Muhammadiyah Hospital Semarang which p value $(0,007) < \alpha (0,05)$.

Discussion : The process of distraction the pinwheel toy can increasing cooperative behavior of children during infusion procedure. Respondents can seen sidetracked there were 9 children (75%) did not dismiss the hands of nurses and 10 children (83.33%) give her member of the body. Although crying but they did not see the needle, they stay focused on the pinwheel toy. The pinwheel toy can increase parasympathetic component, it made decreased levels of the hormone cortisol and adrenaline. The concentrartion can increase and make the child feel at ease to set the rhythm of breathing became regular. It give impact of the increase of oxygen in the blood. Sense of calm can reduce pain and anxiety, so that the child shows an adaptive coping mechanism.

Conclusion : Distraction of breathing exercise which applied in the form Pinwheel toy need to be applied as an intervention of traumatic care for children to behave cooperatively in invasive procedure.

Keywords : breathing, cooperative, preschool

BACKGROUND

Hospitalization requires to staying during undergoing treatment and care until their return back home (Supartini, 2004). According to Bagheriyan (2013), Infusion procedure is one of the invasive procedure which make children have distress. A half of children hospitalized have anxiety when seeing the needle. They believe that the pain is horrifying. If their perception of pain is not as expected, the children showed uncooperative behavior towards the therapy and make unsuccessful the procedure (Bagnasco, 2012). Nurses have to do atraumatic care to reduce distress in children (supartini, 2004)

Atraumatic care can be a coping strategy to reduce anxiety, one of example is distraction (Ahmad, 2012). According to Bagnasco (2012), distraction is effective to improve cooperative child during venipuncture. Breathing exercise is one of example of distraction. According to Bagheriyan (2013), breathing exercise can reduce feelings of pain, anxiety and increase cooperative child during treatment procedures.

Based on phenomenon, the results of research and the theoretical concepts, the researchers are interested in developing breathing exercise as distraction during the infusion procedure. The researchers made a toy which using by breathing exercise setting to applied. The aim of this study was to analysis the effectiveness pinwheel toy toward cooperative behavior of preschool children during infusion procedure.

METHOD

The method is Quantitative research quasi experiment with design of post-test-only control group. Sample of research was preschool who get infusion procedure and the parents approve informed consent in the Roemani Muhammadiyah Hospital Semarang. Respondents were obtained using quota sampling technique, the total sample was 24 respondents (8-21 June 2014), divided into two group were 12 respondents of control group and 12 respondents of experimental group.

The instrument used observation of cooperative behavior sheet and the pinwheel toy. The observation sheet used to assess both of the group, the question consist of 30 statement that have positive and negative meaning with the choice of "yes" or "no", Kappa value was 0.60 to 100 (Ahmad, 2012). The pinwheel toy was played by children with blowing during infusion procedure. Analysis of data using Shapiro Wilk test and independent T test.

RESULTS

Control Group

Table. 3.1 Description of Cooperative Behavior Children Control Group during Infusion Procedure in The Roemani Muhammadiyah Hospital Semarang on June 2014.

| Variable | n | Mean | Std. Deviation | Min | Max |
|---------------|----|-------|----------------|-----|-----|
| Control group | 12 | 16.00 | 4.431 | 6 | 23 |

The data showed that there were 12 respondents of control group had mean value of cooperative behavior was 16.00, a minimum value was 6 and a

maximum value was 23. The mean value approaching the maximum values, then the behavior respondents leads to cooperative behavior.

Table 3.2 Description of Cooperative Behavior Children Control Group based on Age toward Infusion Prosedure in The Roemani Muhammadiyah Hospital Semarang on June 2014

| Age (years) | Frequency | Mean | Cooperative Behavior |
|--------------|-----------|----------|----------------------|
| 3 | 2 | 19.30 | Less Cooperative |
| | 1 | | More Cooperative |
| 4 | 1 | 12.40 | Less Cooperative |
| | 4 | | More Cooperative |
| 5 | 2 | 18.60 | Less Cooperative |
| | 1 | | More Cooperative |
| 6 | 1 | 16.00 | More Cooperative |
| Total | 12 | - | - |

The data showed that the behavior of respondents aged 3 years were two child less and one child more cooperative. Respondents were aged 4-year-old shows one child less and 4 child more cooperative. There were 5-year-old respondents showed 2 less cooperative behavior, one child is more cooperative. Respondents age 6, a child showed more cooperative behavior

Experimental Group

Table 3.3 Decription of Cooperative Behavior Children Experimental Group during Infusion Procedure in The Roemani Muhammadiyah Hospital Semarang on June 2014.

| Variable | n | Mean | Std. Deviation | Min | Max |
|--------------------|----|-------|----------------|-----|-----|
| Experimental Group | 12 | 21.58 | 4.757 | 12 | 27 |

The data showed that there were 12 respondent of experimental group had mean value of cooperative behavior was 21.58, a minimum value was 12 and a maximum value was 27. The mean value approaching the maximum values, then the behavior respondents leads to cooperative behavior.

Table 3.4 Description of Cooperative Behavior Children Experimental Group based on Age toward Infusion Prosedure in The Roemani Muhammadiyah Hospital Semarang on June 2014

| Age (year) | Frequency | Mean | Cooperative Behavior |
|------------|-----------|-------|----------------------|
| 3 | 1 | 19,25 | Less Cooperative |
| | 3 | | More Cooperative |
| 4 | 1 | 19,25 | Less Cooperative |
| | 3 | | More Cooperative |
| 5 | 2 | 12,00 | More Cooperative |

| Age (year) | Frequency | Mean | Cooperative Behavior |
|--------------|-----------|----------|----------------------|
| 6 | 2 | 12,00 | More Cooperative |
| Total | 12 | - | - |

The data showed that the behavior of respondents aged 3 years were one child less and 3 child more cooperative. Respondents were aged 4-year-old showed one child less cooperative and 3 child more cooperative. Respondents were aged 5 and 6 year old respondent all of them showed more cooperative behavior.

The Effectiveness of the Pinwheel Toy toward Cooperatibe Behavior of Children

Table 3.5 Distribution of the Effectiveness of The Pinwheel Toy toward Cooperative Behavior Preschooler during infusion procedure in The Roemani Muhammadiyah Hospital Semarang on June 2014.

| Variable | n | Mean | Std. Deviation | P |
|--------------------|----|-------|----------------|-------|
| Control Group | 12 | 16.00 | 4.431 | 0,007 |
| Experimental Group | 12 | 21.58 | 4.757 | |

Based on data, p value showed $0,007 < \alpha (0,05)$ it means that there was significant difference between the control group and the experimental group on influence the pinwheel toy toward cooperative behavior preschooler during infusion procedure in The Roemani Muhammadiyah Hospital Semarang.

DISCUSSION

Table 4.1 Distribution of Cooperative Behavior of the Control Group based on Observation Cooperative Behavior Sheet during Infusion Procedure in The Roemani Muhammadiyah Hospital Semarnag on June 2014

| Jurnal Ilmiah Mahasiswa Farmasi Hospital Semarang on June 2017 | | | | | |
|--|---|---------|-------|----|-------|
| No | Children Response | Answers | | | |
| | | Yes | | No | |
| | | n | (%) | n | (%) |
| The behavior of children at the time when nurses invite conversation (contract phase of infusion procedure) | | | | | |
| 1 | Children dismissed nurse | 1 | 8.33 | 11 | 91.67 |
| 2 | Children shows angry to the nurse | 1 | 8.33 | 11 | 91.67 |
| 6 | Children give friendly and well response to the nurse | 9 | 75.00 | 3 | 25.00 |
| The behavior of children when nurses come with the equipment of infusion procedure (preparation phase) | | | | | |
| 8 | Children screaming | 4 | 33.33 | 8 | 66.67 |
| 9 | Children crying | 10 | 83.33 | 2 | 16.67 |
| 11 | Children screaming for return back home | 2 | 16.67 | 10 | 83.33 |
| 12 | Children snuggled into hiding at his parents | 10 | 83.33 | 2 | 16.67 |
| 13 | Children to be reasonable, but remained on | 11 | 91.67 | 1 | 8.33 |

| No | Children Response | Answers | | | |
|---|---|---------|-------|----|-------|
| | | Yes | | No | |
| | | n | (%) | n | (%) |
| | his activities | | | | |
| The behavior of children when nurses performing infusion procedure (working phase) | | | | | |
| 16 | Children calling her parents | 8 | 66.67 | 4 | 33.33 |
| 17 | Children thrashed | 3 | 25.00 | 9 | 75.00 |
| 18 | Children's kicking leg | 5 | 41.67 | 7 | 58.33 |
| 19 | Children strong crying and screaming | 9 | 75.00 | 3 | 25.00 |
| 21 | Children dismissed the nurse holding hands | 7 | 58.33 | 5 | 41.67 |
| 23 | Children give members of the body to be examined | 7 | 58.33 | 5 | 41.67 |
| 25 | Children without asking anything allow directly nurses examined | 3 | 25.00 | 9 | 75.00 |
| The behavior of children when nurses ordered something during infusion procedure | | | | | |
| 26 | Children crying | 11 | 91.67 | 1 | 8.33 |
| 27 | Children shows angry response | 2 | 16.67 | 10 | 83.33 |
| 30 | Children do spontaneously without | 3 | 25.00 | 9 | 75.00 |

The data showed that on the contract phase the control group respondents given friendly response. Nurses did communication with parents and children to explained about the procedure and purpose, besides that explained how to relieve stress (Supartini, 2004). There was a related between therapeutic communication on orientation phase, explanation, and good communication with anxiety, it can reduce anxiety response of parents and children.

In the preparation phase, respondents showed uncooperative behavior of 10 children (83.33%) crying, 10 children (83.3%) snuggled into hiding at his parents. Preschooler during hospitalization showed aggressive behavior including physical, verbal, regression, refused to cooperate, fear of being hurt body (Muscari, 2005). fears of children was triggered by several things such as medical equipment, the presence of medical personnel, previous experience, separation and age (Patricia, 2005). According to Wahyu (2013), Nurses should explain the procedure because there was a relation between therapeutic communication at the orientation stage with loss of control children.

The behavior of respondents in the working phase mostly uncooperative, 8 children (66.67%) called the parents, 5 children (41.67) kicked his leg, 9 children (75%) strong crying and screaming. This phase shows children do maladaptive coping mechanisms. They defend themselves by focusing on ego oriented. According to Holy (2012), child coping mechanisms are influenced by age, child development, experience pain, separation and support. Nurses when asking a child to do something when during the procedure, there were 11 children (75%) still cry and three children (25%) did command spontaneously. Nurses need to communicate to the child and cooperation with parents.

Experimental Group

Table 4.1 Distribution of Cooperative Behavior of the Experimental Group based on Observation Cooperative Behavior Sheet during Infusion Procedure in The Roemani Muhammadiyah Hospital Semarnag on June 2014

| No | Children Response | Answers | | | |
|---|--|---------|-------|----|-------|
| | | Yes | | No | |
| | | N | (%) | n | (%) |
| The behavior of children at the time when nurses invite conversation (contract phase of infusion procedure) | | | | | |
| 1 | Children dismissed nurse | 0 | 0 | 12 | 100 |
| 2 | Children shows angry to the nurse | 3 | 25.00 | 9 | 75.00 |
| 6 | Children give friendly and well response to the nurse | 11 | 91.67 | 1 | 8.33 |
| 7 | Children respond enthusiastically to the talks with nurses | 10 | 83.33 | 2 | 16.67 |
| The behavior of children when nurses come with the equipment of infusion procedure (preparation phase) | | | | | |
| 8 | Children screaming | 1 | 8.33 | 11 | 91.67 |
| 9 | Children crying | 4 | 33.33 | 8 | 66.67 |
| 11 | Children screaming for return back home | 0 | 0 | 12 | 100 |
| 12 | Children snuggled into hiding at his parents | 3 | 25.00 | 9 | 75.00 |
| 13 | Children to be reasonable, but remained on his activities | 12 | 100 | 0 | 0 |
| 15 | Children accepted nurse with friendly and asked what procedures will be done | 7 | 58.33 | 5 | 41.67 |
| The behavior of children when nurses ordered something during infusion procedure | | | | | |
| 16 | Children calling her parents | 5 | 41.67 | 7 | 58.33 |
| 17 | Children thrashed | 2 | 16.67 | 10 | 83.33 |
| 18 | Children's kicking leg | 2 | 16.67 | 10 | 83.33 |
| 19 | Children strong crying and screaming | 4 | 33.33 | 8 | 66.67 |
| 21 | Children dismissed the nurse holding hands | 3 | 25.00 | 9 | 75.00 |
| 23 | Children give members of the body to be examined | 10 | 83.33 | 2 | 16.67 |
| 25 | Children without asking anything allow directly nurses examined | 9 | 75.00 | 3 | 25.00 |
| The behavior of children when nurses ordered something during infusion procedure | | | | | |
| 26 | Children crying | 6 | 50.00 | 6 | 50.00 |
| 27 | Children shows angry response | 1 | 8.33 | 11 | 91.67 |
| 30 | Children do spontaneously without | 5 | 41.67 | 7 | 58.33 |

The data showed that the experimental group had more cooperative than the control group in the contract phase. Cooperative behavior shown by the 12 children (100%) did not dismissed the nurse, 11 children (91.67%) being friendly, 10 children (83.33%) responded enthusiastically. Therapeutic communication on the contract phase was essential in approach between nurse with patients and their parents. Four Habits Communication Training research for nurses in preparing for communicating with patients and families showed effective result (Mark, 2014).

In the preparation phase the experimental group was more cooperative. Cooperative behavior shown by the 11 children (91.67%) did not scream, 12 children (100%) did not crying return back home. The introduction of the pinwheel toy, respondents can seen sidetracked 9 children (75%) did not dismiss the hands of nurses and 10 children (83.33%) give her member of the body. Nurses communicate when they were ready to do the procedure. Researchers guide the respondent to blow the toy. In the event of a puncture majority of respondents shocked then cry. Although crying but they did not see the needle, they stay focused on the pinwheel toy.

Pain in children must be addressed, so as not to give a negative memory of the procedure in the long term. The America Society for Pain Management recommends optimizing pain management, which were nonpharmacological pain management and pharmacology (Nelja, 2014). The pinwheel toy includes nonfarmakologi, because it played by breathing exercise and distraction concept. There was differences in the percentage of cooperative behavior between the control group and the experimental when the during venipuncture, 10 children (83.33%) did not wriggle, 8 children (66.67%) are not strong crying and screaming.

Cooperative behavior of the respondent when the nurse asked the child during the procedure shows a more cooperative response than the control group. There were 11 children (91.67%) did not get angry and 5 children (41.67%) did command spontaneously. According to Saints (2012), good cooperation was influenced by various factors, for example, children's anxiety towards the procedure is reduced, nurse had therapeutic communication, parents support for the process of care, beside that Sato (2011) said the experience and skills of nurses also influence

The Effectiveness of the Pinwheel Toy toward Cooperative Behavior of Children

The research concludes that there was an influence on the pinwheel toy toward cooperative behavior in preschool children during infusion procedure in the Roemani Muhammadiyah Hospital Semarang ($p < 0.05$). Controlled breathing showed a decrease in pain and expression in children who do regular breathing, the support of parents also influence on the effectiveness of these interventions. Simple distraction techniques such as breathing repeatedly in behavioral response to pain and response expressions give effective results, the respondents in the experimental group showed reduced hand and torso movements, facial expressions are also reduced than the control group (Koller, 2012).

Coping mechanisms of the experimental group more adaptive than the control group, the percentage is clearly visible in the phase of preparation and work. The process of distraction the pinwheel toy can reduce anxiety, thereby increasing cooperative behavior of children during infusion lasting intervention. The pinwheel toy has an attraction for children, the toy using bright colors. Movement pinwheel rotatable made children interested to saw. The pinwheel can increase parasympathetic component is a stimulant, it causes decreased levels of the hormone cortisol and adrenaline. A decrease in the hormone cortisol and adrenaline in the body can increase the concentration and make the child feel at ease to set the rhythm of breathing became regular. It give impact of the increase of oxygen in the blood (Mertha, 2010). Sense of calm can reduce physiological and psychological response to pain. All of the response changes resulting in decreased pain and anxiety, so that the child shows an adaptive coping mechanism (Mertha, 2010).

CONCLUSION

The mean value of cooperative behavior in the control group 16.00, SD 4.431, a minimum was 6 and a maximum value was 23. The mean value of cooperative behavior the experimental group 21.58, SD 4.757, a minimum value was 12 and a maximum value was 27. The result there was significant effect of the Pinwheel toy to cooperative behavior in preschool children during infusion procedure in the Roemani Muhammadiyah Hospital Semarang which $p \text{ value } (0,007) < \alpha (0,05)$.

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REFERENCE

- Ahmad, S. (2012). Spalk Patterned Influence on the Level of Cooperative Preschool Children during Intravenous Injection Procedures in Hospitals Cilacap Region, 10-53.
- Bagnasco, A., Pezzi, E., et al. (2012). Distraction Techniques in Children during Venipuncture an Italian Experience. *J Prev Med HYG*, 53, 44-48.
- Bagheriyan, S., Borhani, F., Abbaszade, A., Tehrani, H. (2013). Non-pharmacological Interventions for Needler related Procedural Anxiety in Children with Thalassemia. *Iranian Journal of Blood Cancer*. Vol.5 (4), 123-127.
- Koller, D., & Goldman, R. (2012). Distraction Technique for Children Undergoing Procedures: a Critical Review of Pediatric Research. *Journal of Pediatric Nursing* (27), 652-681.
- Mertha, I. M., & Ameliasih, N. W. (2010). Relaxation Breath in the Intensity of Pain in Patients with Pre Apendictomi. *Denpasar Polytechnic Nursing Majors*.

- Mark J. F., Broome, M. E., et al. (2014). The Effectiveness of Brief Intervention for Emotion-Focused Nurse-Parent Communication. *Patient Education and Counseling* (96). 72-78
- Muscari, M. E. (2005). *Learning Guide: Pediatric Nursing*. Issue 3. Jakarta: EGC, 62-73
- Muwarni, A. (2008). *Introduction to Basic Concepts of Nursing*. Yogyakarta: Fitramaya, 103-124, 159-161
- Nelja, C., Inal, et al. (2014). Efficacy of Distraction Methods on Procedural Pain and Anxiety by Applying Distraction Cards and Kaleidoscope in Children. *Asian Nursing Research*, Vol. 8, 23-28.
- Suci, S., & Atarani K. (2012). Play Coloring Activity Can Increase Adaptive Coping Mechanism in the Face of the Stress of Hospitalization in Children. *Stikes Journal* Vol. 5 No. 2, 223-234.
- Supartini. (2004). *Textbook of Basic Nursing Concepts Child*. Jakarta: EGC. It 10-11, 125-143, 188-190.
- Sato, S., Yukiko, S et al. (2011) Factors Associated with Children's Ineffective Coping Behavior during Blood Sampling. *The Japan Society of Nursing Research*. Vol. 34. No. 4
- Patricia, A. P. (2005). *Textbook Fundamentals of Nursing: Concepts, Process and Practice*. Yasmin Asih interpreter, editor of the Indonesian edition ., - Ed.4 -. Jakarta: EGC. 476, 665-667
- Wahyu, R. A. (2013). Knowledge of Nurses to Respond to Hospitalization Preschoolers. *KesMaDaSka Journal*, January 2013.

DEPRESSION AND ANXIETY IN CHRONIC KIDNEY DISEASE PATIENT DURING HEMODIALYSIS THERAPY

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ABSTRACT

Background: Depression and anxiety are psychological conditions that generally occurred on chronic kidney disease patients. Hemodialysis as a kind of therapy that was used to maintain kidney function in patients with chronic kidney disease was potentially created bad perceptions in patients with chronic kidney disease when was acquired hemodialysis therapy and correlated with potential complication in patients, either physiology complication, psychology complication, or socio economic complication.

Objective: This study aimed to describe characteristics of chronic kidney disease patients and the levels of depression and anxiety when was acquired hemodialysis therapy.

Method: This research used descriptive study which evaluated 27 patients who were assigned to get hemodialysis therapy. To determine the level of depression and anxiety, it was used Depression Anxiety and Stress Scale. To know the characteristic of patients, it was used data's questioner about patients' characteristics included age, gender, level of education, marital statue, occupation, economical statue, and etiology of CKD.

Results: Using the univariat analysis, it was concluded there were 29,0% patients who got severe depression and 32,5% patients who got severe anxiety. 77,8% patients were adult, 51,9% male, 63,0% patients had middle level of education, 77,8% had been married, 55,6% didn't have any occupation, and 63,0% had been being CKD's patients more than one year. **Conclusion:** These results indicated that depression and anxiety were two psychological problem that usually occurred in CKD's patient. So it would cause a necessity of early detection of depression and anxiety and intervention to reduce depression and anxiety in CKD's patients.

Keywords: anxiety, depression, hemodialysis.

BACKGROUND

Hemodialysis is one of the therapies employed to maintain kidney function in patients with chronic kidney disease who have reached the terminal stage of renal failure (Baradero, Dayrit, & Siswadi, 2005). Although current hemodialysis

therapy was quite sophisticated with all the advances in technology, the potential for the emergence of bad thoughts in patients with chronic kidney disease on hemodialysis therapy when the set is still very high (Levy, 1979 in Caninsti, 2007). This fact relates to the potential for complications in patients, either the complications of physiological, psychological, economic and social complications. (USRDS, NIH, and NIDDK, 2009, in Khalil, Lennie, & Frazier, 2010)

Depression and anxiety is currently a psychological problem that is frequently reported in patients receiving hemodialysis therapy. Takaki, et al (2003) found that psychological problems affecting the confidence of patients in assessing their ability to undergo therapy and ultimately determine the sustainability of hemodialysis treatment being undertaken. Research conducted by Burg et al, 2008 in the Khalil, Lennie, & Frazier, 2010 showed that depressive symptoms experienced by patients with CKD resulted in increased mortality and decreased quality of life of patients

Khan and Ahmad (2010) added the fact that the prevalence of depression, anxiety, suicidal ideation, and the desire to stop running hemodialysis therapy among patients with CKD is very high. Unfortunately, depression and anxiety are not easy to identify by naked eye. The high incidence of depression and anxiety is sensitize health workers about the importance of inspection in early disease so that patients can be given faster intervention and better quality of life can be maintained. The following study was conducted to describe the rates of depression and anxiety in patients undergoing hemodialysis therapy.

OBJECTIVE

This research used the descriptive study with a sample of 27 respondents. Patients included the inclusion criteria of the study, among others, patients with CKD who received hemodialysis treatment, understand Indonesian, and willing to fill out a questionnaire.

METHODS

The sampling technique used is the type of sampling nonprobabilistic with convenience sampling method. Data was collected by questionnaire method. The questionnaire consists of two parts. The first part is data characteristics of respondents include age, gender, education level, marital status, work status, economic status, long suffering from CKD and CKD etiology. The second part is a questionnaire Depression Anxiety and Stress Scale (DASS) which has been translated into Indonesian. This questionnaire consists of 28 items 14 statements each statement indicating depression and anxiety

Retrieval of data housed in Bogor RSMM Hemodialysis Unit in February 2015. Data is collected when the respondents Hemodialysis therapy by way of reciting the questionnaire. The data was processed using univariate analysis to obtain a picture variable characteristics of the respondents, the level of depression, anxiety levels, and etiology of CKD. The type of data obtained in this study is expressed in the form of category

RESULTS

Characteristics of 27 respondents who participated in this study are shown in Table 1.

Table 1. Frequency Distribution Characteristics of Respondents based in Bogor RSMM the Month February 2015 (n = 27)

| Characteristic | Sub characteristic | N | % |
|----------------------|---------------------|----|------|
| Age | 1. Adult | 21 | 77,8 |
| | 2. Elder | 6 | 22,2 |
| Sex | 1. Male | 14 | 51,9 |
| | 2. Female | 13 | 48,1 |
| Education | 1. High Education | 3 | 11,1 |
| | 2. Middle Education | 17 | 63,0 |
| | 3. Low education | 7 | 25,9 |
| Marital status | 1. Single | 3 | 11,1 |
| | 2. Divorce | 3 | 11,1 |
| | 3. Married | 21 | 77,8 |
| Work status | 1. Employment | 22 | 44,4 |
| | 2. Unemployment | 15 | 55,6 |
| Economy status | 1. Middle | 13 | 48,1 |
| | 2. Low | 6 | 22,2 |
| | 3. Unemployment | 13 | 48,1 |
| Long suffered Of CKD | 1. \leq 1 years | 10 | 37,0 |
| | 2. $>$ 1 years | 17 | 63,0 |
| Herediter | 1. Yes | 17 | 63,0 |
| | 2. No | 10 | 37,0 |

Research shows this time the cause of chronic kidney disease is dominated by other causes such as infection , obstruction or unknown cause (Table 2) .

Table 2. Causes of Cronic Kidney Disease RSMM in Bogor on the month in February 2015 (n = 27)

| Causes | Incident |
|-------------------|-------------|
| Hypertension | 18,5% |
| Diabetes Mellitus | 22,2% |
| Glomerulonefritis | 7,4% |
| Other causes | 51,9% |
| Total | 100% |

The results showed the majority of respondents are at normal levels of depression (44.4 %) , this percentage is followed by 33.3 % of respondents

experiencing mild to moderate depression , and the remaining 22.2 % of respondents experienced severe to very severe depression .

As for the variables anxiety , there are 44.4 % of respondents experienced severe to very severe anxiety , 33.3 % of respondents experiencing mild to moderate anxiety , and 22.2 % of respondents experiencing moderate anxiety .

The frequency distribution of respondents by patient characteristics and level of depression shown in Table 3 .

Table 3. Frequency Distribution Characteristics of Respondents by CKD Patients and Depression Levels in Bogor RSMM the Month February 2015 (n = 27)

| Characteristic | Rates of Depression | | | | | | Total | |
|-----------------------------|---------------------|------|------------|------|----------------|------|-------|-----|
| | Normal | | Low-middle | | High-Very High | | | |
| | n | % | n | % | n | % | n | % |
| Age | | | | | | | | |
| Adult | 9 | 42,9 | 6 | 28,6 | 6 | 28,6 | 21 | 100 |
| Elder | 3 | 50,0 | 3 | 50,0 | 0 | 0 | 6 | 100 |
| Sex | | | | | | | | |
| Male | 7 | 50,0 | 3 | 21,4 | 4 | 28,6 | 14 | 100 |
| Female | 5 | 38,5 | 6 | 46,2 | 2 | 15,4 | 13 | 100 |
| Education | | | | | | | | |
| High | 1 | 33,3 | 0 | 0 | 2 | 66,7 | 3 | 100 |
| Middle | 7 | 41,2 | 7 | 41,2 | 3 | 17,6 | 17 | 100 |
| Low | 4 | 57,1 | 2 | 28,6 | 1 | 14,3 | 7 | 100 |
| Marital status | | | | | | | | |
| single | 0 | 0 | 2 | 66,7 | 1 | 33,3 | 3 | 100 |
| Married | 11 | 52,4 | 5 | 23,8 | 5 | 23,8 | 21 | 100 |
| Divorce | 1 | 33,3 | 2 | 66,7 | 0 | 0 | 3 | 100 |
| Work Status | | | | | | | | |
| employment | 4 | 33,3 | 3 | 30,0 | 5 | 41,7 | 12 | 100 |
| unemployment | 8 | 53,3 | 6 | 40,0 | 1 | 6,7 | 15 | 100 |
| Economic status | | | | | | | | |
| Middle | 3 | 37,5 | 1 | 12,5 | 4 | 50,0 | 8 | 100 |
| Low | 1 | 16,7 | 4 | 66,7 | 1 | 16,7 | 6 | 100 |
| Unemployment | 8 | 61,5 | 4 | 30,8 | 1 | 7,7 | 13 | 100 |
| Long suffered of CKD | 4 | 40,0 | 3 | 30,0 | 3 | 30,0 | 10 | 100 |
| ≤ 1 years | 8 | 47,1 | 6 | 35,3 | 3 | 17,6 | 17 | 100 |
| > 1 years | | | | | | | | |

The frequency distribution of respondents by patient characteristics and levels of anxiety seen in Table 4 .

Table 4. Frequency Distribution Characteristics of Respondents by danTingkat Anxiety in Patients with CKD on RSM Bogor Month February 2015 (n = 27)

| characteristic | Anxiety stage | | | | | | Total | |
|-----------------------|---------------|------|---------------|------|-------------------|------|-------|-----|
| | Normal | | Low to middle | | High to Very High | | | |
| | n | % | n | % | n | % | n | % |
| Age | | | | | | | | |
| Adult | 5 | 23,8 | 7 | 33,3 | 9 | 42,9 | 21 | 100 |
| Elder | 1 | 16,7 | 2 | 33,3 | 3 | 50,0 | 6 | 100 |
| Sex | | | | | | | | |
| Male | 3 | 21,4 | 6 | 42,9 | 6 | 35,7 | 14 | 100 |
| Female | 3 | 23,1 | 3 | 23,1 | 7 | 53,8 | 13 | 100 |
| Education | | | | | | | | |
| High | 0 | 0 | 1 | 33,3 | 2 | 66,7 | 3 | 100 |
| Middle | 5 | 29,4 | 5 | 29,4 | 7 | 41,2 | 17 | 100 |
| Low | 1 | 14,3 | 3 | 42,9 | 3 | 42,9 | 7 | 100 |
| Married status | | | | | | | | |
| single | 1 | 33,3 | 0 | 0 | 2 | 66,7 | 3 | 100 |
| Married | 5 | 23,8 | 8 | 38,1 | 8 | 38,1 | 21 | 100 |
| Divorce | 0 | 0 | 1 | 33,3 | 2 | 66,7 | 3 | 100 |
| Work status | | | | | | | | |
| empolymnt | 1 | 8,3 | 4 | 33,3 | 7 | 58,3 | 12 | 10 |
| unemployment | 5 | 33,3 | 5 | 33,3 | 5 | 33,3 | 15 | 100 |
| Economic Basic | | | | | | | | |
| Middle | 0 | 0 | 4 | 50,0 | 4 | 50,0 | 8 | 100 |
| Low | 1 | 16,7 | 0 | 0 | 5 | 83,3 | 6 | 100 |
| Unemployment | 5 | 38,5 | 5 | 38,5 | 3 | 23,1 | 13 | 100 |
| CKD | | | | | | | | |
| ≤ 1 years | 1 | 10,0 | 4 | 40,0 | 5 | 50,0 | 10 | 100 |
| > 1 years | 5 | 29,4 | 5 | 29,4 | 7 | 41,2 | 17 | 100 |

DISCUSSION

Results of univariate analysis showed that the majority of respondents were in the age range of adults. This study strengthens the research conducted by Andrade & Sesso (2012) which says that on average patients undergoing hemodialysis were in the age range of 51.5 years or adult categories. Suwitra (2006) said that chronic kidney disease (CKD) is a disease of kidney damage that occurred more than three months. This kidney damage occurs slowly follow severity. The new provisions of hemodialysis therapy is given when the patient has to be in the final stase or in poor general condition and obvious clinical symptoms (Rahardjo, Susalit, & Suhardjono, 2006). Most chronic kidney disease patients have comorbidities that became the etiology of chronic kidney disease itself, such as hypertension and diabetes mellitus. Research conducted Samara

(2001) says that the average patient with hypertension aged 31 years. That is, the chances of worsening kidney because of new hypertension can occur after patients aged over 31 years. This study reinforced by Amri (2014) which says that the age of patients with degenerative diseases such as diabetes, heart disease, cancer, etc. ranged between 30-40 years (Virdhani, 2014). This fact explains why the majority of respondents in this study are included in the adult category

The majority of respondents are married. These results are similar to studies conducted Andrade & Sesso (2012). His research shows the status of married owned by 50.0% of respondents. According Havighurst (1963), older age groups is the productive age group to live as a couple. Individuals who are in this phase has a development task to choose a spouse and to manage family. When connected with the majority of respondents age most of which are in the older age groups (19-59 years old), the percentage of married status would be in tandem with the percentage of respondents age.

This study also shows that the majority of chronic kidney disease patients aged adults tend to have normal levels of depression and anxiety. This data is in contrast to studies that found by Sopha (2014) who found that adult patients are more likely to experience problems associated with psychosocial as dependents patients of childbearing age-related careers, interpersonal relationships, and the future. Differences in the results of this study are expected to have a relationship with how the social support of people around the patient. Data show that the majority of patients who have been married are at mild levels of depression. Results of this research is reinforced by Koenig, McCullough, & Larson (2001) in his research were able to prove the existence of a close relationship between mortality decline with the availability of social support. Social support is the perception when people feel as part of an association whose members give each other love, support, and liabilities (House, 1988 in Kimmel, 2001). Social support can come from family members, friends, health workers, etc. Social support is believed to improve the physical and mental health of everyone, particularly patients with chronic illnesses. This explanation is reinforced by studies by Christensen, Wiebe, and Smith (1994), which shows that the closeness of the family in a marriage can be a measurement unit obtained the patient's social support (Kimmel, 2001). Patients who have been married and had an intimate partner would ideally receive continued support. This causes the patient to have a defense and readiness when hearing provision of hemodialysis therapy

Research shows respondents are male dominated, similar to research Liana, Remor, & Selgas (2012) It this hotel. One an effort to prevent the emergence of degenerative diseases is diligent exercise . Consumer Data Polling (2013) found that only 14 % of women in Indonesia who regularly exercise (Monintja , 2013). This percentage is much lower when compared to the percentage of women in other countries such as Australia which amounted to 63 % (ABS , 2009) . Differences in these rates may be one reason why women dominate in Indonesia the percentage of patients who developed chronic kidney disease . Moreover , the researchers assume that the freedom to drink alcohol abroad are much favored by men may be the reason why more overseas in chronic

kidney disease patients with male sex . Assuming researchers reinforced by research conducted by Kim , et al (2008) who found that there was as much as 14.4 % of men in Hong Kong who like to drink alcohol , while women who like to drink alcoholic beverages represent less than 3.6 % ,

The study found that the majority of women are likely to experience severe anxiety. This is related to the research that says that women have a greater emotional reaction than men. Different emotional reaction is then lead to differences in temperament of women in the face of a stressor and impact the level ansietasnya. In addition, he also said women tend to have more events can be a stressor (Hankin & Abramson, 2001; Hyde, 2008 in Charbonneau, AM, Mezulis, AH, & Hyde, JS, 2009). Simple things can make women think more complicated that ultimately becomes a stressor itself for them. Changes in physical terms such as fatigue experienced by patients with chronic kidney disease, changing appearance, feelings of nausea, vomiting, and despair can be one stressor perceived by the women who indeed have more attention to the appearance.

Other characteristics in Table 1 shows that the majority of respondents are at the level of secondary education. This is in contrast with research Andrade & Sesso (2012) were mostly poorly educated respondents (61.1%). Differences in educational characteristics of patients with chronic kidney disease who are found can be caused by a difference in data collection in the study. This research was taken in a hospital located in the city center. Opportunity discovery of patients with CKD secondary education would be more. In contrast to research conducted by Liana, Remor, & Selgas (2012) which takes the data in the outskirts of Madrid, Spain. In addition, researchers believe that the education system which is used in both countries is certainly not the same. Maybe compulsory nine-year program implemented since 1984 in Indonesia taking part which led to many people of Indonesia have minimal education junior.

Studies have also shown that patients who have higher education are less likely to experience depression or severe anxiety. This strengthens the research Llana, Remor, & Selgas (2013) which showed that patients who are in a higher level of education have a better understanding of the disease and treatment, better relationships with health professionals, and higher adherence to the process so that the treatment effect on their psychological condition.

Other characteristics that work status and economic status. The results showed the majority of respondents had not worked. Does not different much from that number, the majority of respondents do not have an income. Andrade & Sesso study also showed similar results, 73.7% of respondents were not able to work, 45.5% are in the middle economic status. Weakness, nausea, vomiting, decreased appetite, pruritus, and prone to infection is a condition that is felt by patients who have impaired kidney function. This condition is a factor that could disrupt the stability of the respondents in the works.

The majority of patients who are still working are likely to be at normal levels of depression and anxiety up to a light. This can be caused by several things, for example, patients with chronic kidney disease who are still working have the opportunity to get more social support than patients with chronic kidney disease who are not working. Provisions hemodialysis therapy can lead to

negative thoughts in patients, either related to the process and costs. At least, when the patient still has an income, negative thoughts towards the costs can be minimized.

There are as many as more than half of the respondents have experienced kidney damage > 1 year. These results were confirmed by research conducted by Llana, Remor, & Selgas (2012) which found that 50.8% respondents had suffered from PGK > 10 years. Patients who have suffered PGK > 1 year also appear to be at normal levels of depression and anxiety up to a light. Delmar Cengage Learning, 2011 in DeLaune & Ladner, 2011 said that the disease, including the duration of the patients suffering from chronic kidney disease, became one of the stressors which are factors that affect the level of depression and anxiety according to Halter & Varcarolis (2006). Ideally, the longer a patient suffering from a disease, the more time he has to adapt to psychological problems that arise can be minimized.

Overall, this study shows that rates of depression and severe anxiety in patients receiving HD therapy is quite high. It is the same with research that found by Andrade & Sesso (2012), which proved that 41.6% of HD patients suffering from depression are thought to be related to marital status, professional activity, income, and functional capacity. Andrade & Sesso (2012) also found that HD patients are very susceptible to complications from depression. Research Khalil, Lennie, and Frazier (2010) reinforces the high demand for surveillance of the patient's psychological condition HD because Khalil, Lennie, and Frazier (2010) found that 30% of HD patients have the potential to experience symptoms of depression that ended on mortality and decreased quality of life. Non-adherence to treatment due to the perceived loss of life expectancy of patients with depression to be one of the factors that increase mortality.

CONCLUSION

Results of this study prove that depression and anxiety are two psychological problems that may be experienced by patients with chronic kidney disease who underwent HD treatment. The evaluation of depression and anxiety in the early stages of becoming an important thing to prevent a decline in quality of life and increased mortality. Statutes provide hemodialysis in patients with chronic kidney disease as an invasive procedure that affects many facets of patients should ideally also consider the possibility of psychological problems. Expected future studies prove the effectiveness of psychotherapy in treating depression and anxiety in patients undergoing HD.

REFERENCES

- ABS (June 30, 2011). Sports and physical recreation. June 27, 2014.
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features30Jun+2011>
- Andrade, C.P., & Sesso, R.C. (2012). Depression in chronic kidney disease and hemodialysis Patients. Scientific Research, Vol 3, No 11, 974-978.

- Baradero, M., Dayrit, MW, and Siswadi, Y. (2005). Clients renal impairment: Series nursing care. Jakarta: EGC.
- Caninsti, R. (2007). Picture of anxiety and depression in patients with chronic renal failure undergoing hemodialysis therapy. Depok: the Graduate School of Psychology UI.
- Charbonneau, A.M., Mezulis, A.H., & Hyde, J.S. (2009). Stress and emotional reactivity as explanantions for gender differences in adolescents' depressive symptoms. *J Youth Adolescence*, 38, 1050-1058.
- DeLaune, S.C., and Ladner, P.K. (2011). *Fundamentals of nursing: Standards and practice*. 4th ed. USA: Delmar, Cengage Learning.
- Halter, M.J., Varcarolis, E.M., & Shoemaker, N.C. (2006). Anxiety and anxiety disorders. In Halter, M.J., and Varcarolis, E.M. (2010). *Foundations of psychiatric mental health nursing* (pp 195-209). 6th ed. St.Louis: Elsevier.
- Havighurst. (1963). *Developmental tasks and education*. New York: David McKay.
- Khalil, A.A., Lennie, FY, & Frazier, S.K. (2010). Understanding the negative effects of depressive symptoms in Patients with ESRD receiving hemodialysis. *Nephrology Nursing Journal*, Vol 37, No. 3, 289-308.
- Khan, M., & Ahmad, M. (2010). Anxiety, depression and cognitive changes in Patients on hemodialysis. *Deparment of nephrology Military Hospital Lahore*, 116-119.
- Kim, et.al. (January 29, 2008). Prevalence and the factors associated with binge drinking, alcohol abuse, and alcohol dependence: A population-based study of chinese adults in Hongkong. *Alcohol Alcohol PubMed.gov*. 43 (3): 360-70. June 27, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/18230698>
- Kimmel, P.L. (2001). Psychosocial factors in dialysis Patients. *Kidney International*, 59, 1599-1613.
- Koenig, H.G., McCullough, M.E. & Larson, D.B. (2001). *Handbook of religion and health*. New York: Oxford University Press.
- Llana, H.G., Remor, E., & Selgas, R. (2012). Adherence to treatment, emotional state and Quality of Life in Patients with end stage renal disease undergoing dialysis. *Psicotema*, Vol 25, No 1, 79-86.
- Monintja, V. (2013). Duh, many Indonesian women sport lazy. June 27, 2014, at 07:31 WB. <http://health.liputan6.com/read/732589/duh-banyak-perempuan-indonesia-malas-olahraga>
- Rahardjo, P., Susalit, E., & Suhardjono. (2006). Hemodialysis. In Sudoyo, A.W., et al. (Ed.). (2006). *Internal medicine textbook* (pp 579-580). Jakarta: Central Publishing Department of Medicine Faculty of Medicine, University of Indonesia.
- Samara, D. (2001). Management of hypertension secondary to differences in anatomy renovascular abnormalities in young and old age. *A medicine Trisakti*, 20, 27-41.

- Sopha, R.F. (2014). Relationship characteristics of chronic kidney disease patients with levels of stress and anxiety when set hemodialysis therapy in Fatmawati Hospital. Thesis: Not published.
- Suwitra, K. (2006). Chronic kidney disease. In Sudoyo, A.W., et al. (Ed.). (2006). Internal medicine textbook (pp 570-578). Jakarta: Central Publishing Department of Medicine Faculty of Medicine, University of Indonesia.
- Takaki, J., et al. (2003). Interactions Among a stressor, self-efficacy, coping with stress, depression, and anxiety in maintenance hemodialysis Patients. Behavioral Medicine, 29, 107-112.
- Virdhani, M.H. (2014). Degenerative disease trends shifted aged 30-40 years. June 10, 2014, at 21:51 pm.
<http://health.okezone.com/read/2014/04/19/482/972796/tren-penyakit-degeneratif-bergeser-usia-30-40>

SHAMAN“TU TXIV NEEB” : TRADITIONAL HEALING OF HMONG COMMUNITY IN NORTHERN THAILAND

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ABSTRACT

Background: *The traditional Hmong belief structure is based primarily on animism (the belief that all natural objects and individuals have multiple souls), ancestral worship, and reincarnation. Hmong may believe that illness is caused by a combination of natural and supernatural causes and may therefore seek a variety of specialists for diagnosis and treatment. For illnesses believed to be caused by spiritual influences, the Hmong may turn to prayers, rituals, chants, and religious ceremonies performed by a shaman (tu txiv neeb pronounced "too tse neng").*

Purpose: *This study aims to explore a perception and function of shaman expressed by shaman Hmong and Hmong ethnicity who live in a mountain village, Northern Thailand.*

Method: *A qualitative research was employed, phenomenological approach as a method that to focus on shamans and their lives experiences during February 2013 - January 2014. Thirty-six shamans (26 men and 10 women) aged 35-82 were purposively selected to be key informants (KI). The data collection methods including in-depth interview, focus group discussion and the use of field diaries. Content analysis was employed.*

Results: *The seven major findings were; 1) All about the community 2) Hmong culture: beliefs in spirit 3) The supreme spiritual healer 4) A priest and magician 5) A traditional healer 6) A special relationship with the spirit and 7) call and chosen by spiritual forces .*

Conclusion: *The persistence of the need for the spiritual healing provided by the shamans within this community. Shamans' rituals affirmed and strengthened connections to family, culture, and community*

Keywords: *the shaman, Hmong, Thailand*

BACKGROUND

Of the two groups of Hmong communities which are markedly different in languages and customs -Hmong Dawb (White Hmong) and Mong Leng (Blue Hmong), those who lived and hence participated in this study came from the latter group. The early refugee Hmong migrated to Thailand in three waves caused by political unrest and a change in the political structure (1975-1977); or due to draughts, crop failure and political oppression and attack of the Laotian Communist government on the militia (1978- 1982). During the latter period, the

refugee exodus from Indochina was the largest; and about 21 centres for asylum processed the Hmong and provided transition camps in Thailand. The third wave of migration brought more asylum seekers. In late 1980s, there were 75,000 refugees from Lao, of which 70% of them were Hmong, living in two camps – Ban Vinai and Chieng Kham (Duffy, 2004).

Currently, they are about 4.5 million Hmong worldwide, including those residing in China, 3.1 million; 800,000 in Vietnam; 460,000 in Laos; 200,000 in the US; 120,000 in Thailand; 2,000 in Australia; 1,400 in Canada, and about 100 to 300 each in Argentina and Germany (Lee, 2006)

Hmong's connections with Thai majority date back at least a century, while the contact became intensified 40 years ago (Chuamsakul, 2006) Hmong are only becoming legal citizens of Thailand in the last 5 years. As early as 2004, Hmong were considered stateless people. They were seen as illegal migrants and undocumented workers in Thailand, who were often subjected to exploitation and abuse by employers. In 1998 the Thai government by department of provincial administration wrote a law to give citizenships to Hmong people.

Traditionally, the Hmong people practice a combination of animism and ancestor worship. In this belief system each human has multiple souls that must remain in harmony to retain health. In addition, it is believed that all natural entities such as rocks and bodies of water (i.e., lakes and ponds) have a spirit. These entities have spirits that may have a neutral, positive, or negative impact on a person's spiritual well-being. Spiritual illness occurs when one or more of the human souls become separated from the human body or become compromised in some other way, requiring intervention by a shaman (*tu txiv neeb* pronounced "*too tse neng*").

Ancestor worship involves veneration of family ancestors. The basis of this belief system includes strong interdependence between persons living in *yaj ceeb* (physical or seen world) and the deceased who inhabit *yeeb ceeb* (world of ancestors and other spirits). Violation of this cultural norm or similar rituals may result in an ancestral spirit causing harm to the offender, his or her living family members or future descendants of the offender.

Traditional Hmong beliefs included several potential sources of illness, including soul loss, supernatural or spirit causes, natural causes, magical causes (spells cast on the afflicted), or the expiration of one's "life visa" or "mandate of life" (Thao, 1986). Health care strategies involved shamanism, herbal medicines, or a combination of the two. Hmong shamanism maintains its traditional role in health and healing. Many Hmong who see physicians also rely on shamans for restoring health and balance to their body and soul. Thus, the Hmong shaman can be considered a powerful complement to health care providers.

In Thailand, while there have been excellent studies conducted on Hmong culture, their social structure, and cultural adaption; since late 1996 studies about illness such as Human Immunodeficiency Virus (HIV), hypertension, reproductive health problems have been limited to traditional healing such as shamanism in this group.

An understanding the perception and importance of Hmong healing traditions will be helpful for the health professional to be aware of and to accept a

client's cultural background and life experiences. This cultural knowledge will enable nurses to improve services that are culturally sensitive for this population.

OBJECTIVE

To explore a perceptions and function of shaman expressed by shaman Hmong and Hmong ethnicity who live in a mountain village, Northern Thailand.

METHODS

Design: A qualitative, phenomenology method was used that to study Hmong shaman lived experiences. Approval to conduct the study was obtained from the Ethics Committee for Human Subjects of the researchers' academic institution. All key informants were purposively selected and informed about: the nature of the study; what involvement in the study entailed; anonymity and confidentiality issue; and the right to withdraw from the study at any time without repercussions. All individual consenting to take part in the study were asked to sign a consent form.

The study was conducted with the Blue Hmong or *Mong Leng* residing in Rom-yen Village (not real name), on Mount Doi Phaji, Northern Thailand. No one in the community knows exactly when their ancestors first came and settled on the highland of Mount Doi Phaji. Highland communities or hill tribe people exclude native Thai who lives in the same area of higher than 400 meters from the sea level. The highland communities include Hmong, Akha, Lasu and Lalu ethnics, the lowland communities consist of Hmong and a larger native Thais groups, including Akha, Chinese Haw, Mien, Lalu, Lasu, Kayan, Samuk, Tong Su, Thai Lue, Shan, Lau and Tin (Lee, 2006). Different to other Hmong communities from a number of refugee camps is Northeast Thailand - Ban Vinai, Chiang Kam, Ban Nam Yo, Nong Kai and Tham Krabok Temple - who fled from Laos due to natural disasters of political conflicts in 1970s; Hmong from Rom-yen Village originated from the south western region of China. Their ancestors were believed to come from the Yellow River or Hwang Ho River in South China in Yunnan, suggesting a close cultural connection with Miao/Hmong from China.

Participant observations, focus group discussions and in-depth interviews were conducted from 36 shamans living in Rom-yen village in Northern Thailand on February 2013- January 2014. This research employs a classic anthropological practice by using a social dialogue technique in local languages of Hmong (*Hmong Njua*) dialect when conducting interviews and the use of field diaries and seeking to make a cultural understanding of the data. Furthermore, the research is exploratory in nature, starting with a very general research topic on lived experiences of depression in Hmong Women.

Participant observations were conducted in ceremonies for all major events in family life, marriages, births, funerals, and health related problems (total 65 times). In-depth interviews were conducted from thirty-six shamans (26 men and 10 women) aged 35-82. Twelve focus group discussions. Relevant cultural understanding of the Hmong traditional healing and domains were analyzed using the phenomenology approach. This approach focuses on the intentional relationship between shaman and their experiences. In addition, this research has ensured a

holistic ethnographic approach in which day to day data were collected through field notes to reveal important contextual understandings and greater insights into the life of traditional healer in the Mount Doi Phaji.

Data Analysis: Data were analyzed using content analysis based on traditional healing perspective and Hmong culture. The process of data management and analysis consisted of: transcription and initial review of data; development of coding categories; data coding; and, review of code and identification of themes, and linkages between and among themes.

Transcribed, verbatim, all the interviews and notes were analyzed. In order to clean a clear understanding of the content and enable development of the coding categories, initial review of the data began by repeated reading of the field notes and transcription of each interview. The major categories, initially, were identified so as to narrow the information obtained into subcategories. Labeled each category and subcategory with a code name that was closest in to the concept it described.

Trustworthiness was a guiding principle for the validity of this qualitative study (Milne, 2005). To ensure validity, reflect on what truly were in the data, reviewed the codes, throughout the data analysis process, with investigator member of research team who were experts in qualitative research, while reading and rereading the categories data. Agreement was sought, about the substantive meaning, by way of obtaining feedback from participant regarding their review of the accuracy of transcript statements. Triangulation to demonstrate confirmability and completeness by gathering information from multiple data sources, including individual interviews, observation, and field notes. Finally, investigator triangulation was demonstrated by use of more than one person to collect, analyze and interpret the data.

RESULTS

There are seven major findings related to shaman.

1. All about the community

A total of 164 households with 1,077 people lived in Rom-Yen village, with three dominant clans including Lee, Vang and Chang. The largest proportion was young people aged between 12 to 49 years (751 people) and children aged between 1 to 11 years (246 people). The community sustain their life by planting corns (sticky dark corns and sweet corns) and growing local and seasonal vegetables near their house; the women would sew handicrafts and clothes while the men made bamboo baskets and crafts to be sold at local markets.

The research community is relatively poor and while the older generations are illiterate, most of young generations only complete six year of primary education.. At the time of this study, there was no electricity, only the village head had a television and refrigerator. There were no sources of clean water in the house. They have a local well, that women would walk to about 1-2 kilometres about 2 times a day to fetch water at a local well and one wells is shared by the extended family. In this community, there was 95% for the Animism and 5% Christians.

2. Hmong culture: beliefs in spirit

Many Hmong continue to believe in the efficacy, and commission the practice by shamans of, some of the more important traditional rituals, such as marriage rites, soul calling, healing rites, worshipping the "house spirit", and funeral rites and The Hmong called them the Spirit Couple.

The Hmong believe that each living body has three souls. When all three souls reside in the body the person is healthy and well. However, if one of the souls has escaped or has been frightened away, the body becomes weak and ill. If all souls leave the body and there is no ceremony to call the souls back, this eventually leads to the death of the person. One shaman said;

"..When your plig (souls) are with you then you are healthy but if your plig have all wandered then you will feel very weak and tired and then your health becomes worse and worse, and that is when you get sick.."

The Hmong believe that an individual cannot become a true human being if he or she does not have all three souls in the body. The Hmong see that a body is like a house in which the souls reside. Similar to human beings who have a house to live in; souls have their own house to reside in too.

Upon death, the three souls leave the body. One soul will stay at the grave of the person. The second soul will travel to the land of its ancestor. The third soul will travel to the spirit world and wait to return in another body. When it is the right time for the soul to be reincarnated, it will be given permission from spirit parents to enter the womb of a woman. Without the spirit parents' permission, the soul cannot be reborn or will die soon after birth if it escapes from the spirit parents.

3. The supreme spiritual healer : Shaman

Traditional Hmong spirituality, the shaman, a healing practitioner who acts as an intermediary between the spirit and material world, is the main communicator with the otherworld, able to see why and how someone got sick. In ancient times, it is said that humans and the spirits used to live with each other. However, due to conflict between the two very different beings, the deity *saub* had blinded the two from being able to see each other.

All participants said;

"... the significant role of us in the spiritual well-being..."

"...I heal the weak and the lost spirit..."

"...when the cause of the affliction was perceived as being spiritual in nature.."

Many Hmong older adults discussed the important role of shaman that..

"..In Hmong New Year to promoting the spiritual well-being of family members throughout the coming year.."

One shaman described his role by stating;

"..a shaman "cares for the person's spirit throughout life whereas a physician cares for a person's physical body throughout life.."

However, there is this good and evil in both worlds and thus whenever humans come into contact with the evilness of the otherworld, a shaman is needed to perform rituals to go rescue or call back the sick person's spirit and look at the reason for why the person is so sick. The shaman has a repertoire of rituals for spiritual intervention. As two older shaman said; *"..shaman will perform ua neeb saib (diagnostic ceremony) to determine the source of the problem.. followed by ua neeb kho (healing ceremony).. if the shaman is successful in retrieving the soul, the individual will recover.. if not.. have subsequent ceremonies performed by the same shaman or a different shaman, it is believed the person will die.."*

4. A priest and magician

In this community found that; Shaman is a combination healer, priest and magician whose specialty is controlling or gaining aid of supernatural agencies. Among the devices of them employs such as hypnotism, sleight of hand, and, above all, trance-like states. These last are achieved through dance, music and fasting.

The informants reported that;

"...the dangers of the other world are always present, but through we are initiatory preparation, and fortified with the aid of acquired guardian spirits..."
".. the shaman alone is able to brave the challenge.."

5. A traditional healer

Hmong cultural attitudes, values, and behaviors influence when, where, why, and with whom a Hmong person will use. The foremost Hmong traditional healer is the shaman. There is no equivalent health professional, and the scope of the shaman as a healer extends beyond the capacities and expertise of physicians.

All shamans reported having an active practice, with comments such as;
"..I have so many patients, I do not count.."

More specifically, three oldest shaman stated that;
".. performed 20 to 40 healing ceremonies per year..."

Traditional healing practices rely on certain individuals to diagnose and treat ailments by shamans.

Some KI, said; *"..healing techniques include massage, coining or spooning (rubbing an area vigorously with a silver coin or spoon), and cupping (applying negative suctioning pressure on the skin with a cup)..."*

This community, shamanism maintains its traditional role in health and

healing. Rituals, which serve as a treatment, might include herbal remedies or offerings of joss paper money or livestock. Among shaman's real job is to "reproduce and restore belief" not really the health professional, although it may seem so.

6. A special relationship with the spirit

The shaman normally helps others communicate with spirits, including the spirits of dead ancestors.

Six of healing ceremonies, different shaman, that participation observation by researcher. These are some part of my field diaries;

"..Cases serious illness, situation of the shaman (men) enters a trance and travels through the spirit world to discern the cause and remedy of the problem, involving the loss of a soul.. After a waiting period, the sick becomes well, then the second part of the ceremony, will be performed, in which joss paper is burned and livestock is sacrificed (exchange for the well-being and future protection of the individual's soul).."

"..Extended family and friends are invited to partake in the ceremony and tie a white string around the wrist (khi tes) of the individual. The strings are blessed by the shaman and as each person ties it around the individual's wrist, they say a personalized blessing."

"..A household always has a sacred wall paper altar (a Thaj Neeb made of Xwm kab) in which when the shaman comes, he performs the ritual in front of it. Domestic worshipping is usually also done in front of this. This wall paper altar serves as the main protector of the house. It is the place, wherever a household decides to place it, where worshipping, offerings (joss paper, animal, etc.) and rituals are done.."

In shamans also have their own personal altar that holds their special instruments. During a ritual, or when a shaman is under a trance addition, , it is prohibited to walk between the altar and the shaman when the shaman is speaking directly with the otherworld.

One of family member told that;

"..shamans actually communicated with spirits. It's amazing how shamans go into the spirit world..."

The shaman has a special relationship with the spirits, different from that of people who are not shamans. Relationships with these other-than-human persons, like relationships with human persons, are often subject to renegotiation, and may involve different and shifting amounts of power on either side. Relationships with different spirits may involve different degrees of trust, persuasion, control, or subordination.

7. Call and Chosen by spiritual forces

Not everyone gets to become a shaman; they must be chosen by the spirits to become an intermediary between the spiritual realm and physical world.

In Hmong shamanism, a shaman can be a man or a woman. Typically, there is a strong chance for an individual to become a shaman if their family history contains shamans. This is due to the belief that ancestral spirits, including the spirits of shamans, are reincarnated into the same family tree.

Another informant emphasized that to become a shaman;

*“..you receive a spiritual “calling,” that he viewed as a “gift from heaven”
“..you have to be a good person to be a shaman.”*

Notification of the person’s intended role is received in the form of a dream or overcoming a life threatening illness. Many participants described;

“..Usually a shaman is sick before they become a shaman, that happened to Jang (not real name). He was so sick, nothing would cure him. Then the spirits told him that if he became a shaman, he would get better. So he became a shaman..”

“..Not all good people become shamans...the spirits choose you and if you don’t accept you will get sick and won’t get better..”

Hmong villages always had at least one shaman. Generally, each clan had its own shamans. Sometimes patients would go to a shaman outside their clan, but generally reported feeling more comfortable with the ways of their own clan.

DISCUSSION

Unique to the Hmong culture is the belief that spirits often are the cause of illness. Hmong’s believe in spirits and ghosts and in the ability to communicate with them visually, verbally, and through dreams. Hmong believe that they are connected to the loss of a person’s spirit or soul; they are not related to the mind or body.

Traditional Hmong spirituality, the shaman, a healer who acts as an intermediary between the spirit and material world, is the main communicator with the otherworld, able to see why and how someone got sick. In the Hmong community, shamans are highly respected.

Borrowing the words of Conquergood and Thao (1989), the Hmong shaman is, *"more than a radiant cultural centerpiece; he or she is the active agent of cultural process, dynamically exercising and mobilizing the core beliefs of a culture"*

Jacques Lemoine (1986) described the traditional obligation of the Hmong shaman to help patients *“recover psychic balance”* or *“restore the self.”* This was done in the framework of the familiar shamanic rituals that clarified the links between the worlds of humans, ancestors and spirits.

Hmong shamans are influential members of the clan and resources for individuals and families for disease cures, and their involvement has persisted, especially in spiritual issues. An important part of the shaman’s work was

searching for wandering souls; when the shaman locates and retrieves a lost soul, health is restored. To become a shaman, must be a good person with a good soul because if he or she have a bad soul the people them try to heal will only become much sicker. Different shamans have different powers, for instance one shaman may have a stronger soul so that would make them more powerful.

The shamans do not have a particular place open to the public,

"..Shamans never come to your door as other religious persons do-on the contrary, a family has to request his (her/ shaman) services actively for him (her) to go to the spirit world..."

The ceremonies are rather private, in the homes of the shamans themselves. Shamans also function as healers. Many know herbal remedies, which they make available to members of their families and communities. They are known through the community and people who need them look them up and request their help. Sometimes a shaman may refuse to help and will insist that the seekers find someone else. However, if the seekers insist, the shaman will then determine what to do.

A shaman is the supreme spiritual healer whose primary means of patient care is to travel to the spirit world. Shamans are usually well known, well respected, and mostly male though some are female, and are key figures in traditional culture. It is said that shamans do not seek the calling but that the spirits call them to the spiritual healing practice.

Shaman ceremonial tools include a gong and a wooden bench, and rituals involve going into trance, long chanting, and sacrificing animals, usually chickens or pigs. Animals are killed so their souls can be asked to guard the patient. Shamans are able to speak the language of the spirits, negotiate and fight with the spirits for the health of the patient. Shamans perform divination procedures for diagnosis, and trance rituals for curing and further protection.

CONCLUSION

The shaman's role is extremely important for a Hmong person who is ill. The ceremonies performed by the shaman help alleviate problems associated pernicious spirits, which are an important element of Hmong cosmology. This healing procedure reflects the critical importance of the group in the traditional Hmong culture.

This cultural knowledge will enable professionals to improve as culturally and gender sensitive services for this population. Hmong live all over the world and bring their cultural believes and practices with them. Therefore, heath care professionals all over the world can potentially benefit from these findings. The extent to which the findings of this paper are relevant to Hmong in the Western world, deserves further investigation. Thus, future research needs to consider the use of Hmong study sites that are located in various geographical areas throughout Thailand.

LIMITATIONS

When applying the findings, the limitation of the study need to be taken into consideration. The study participants were associated with the only one

Hmong community located in Northern Thailand. Thus, the proposed approaches taken can only be applied to the Hmong community that are similar to the used in this study.

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REFERENCES

- Chuamsakul S.(2006). Education and Hmong Culture Change: A study of two Hmong villages in Northern Thailand.
- Conquergood D, Thao P.(1989). I am a Shaman: A Hmong Life Story with Ethnographic Commentary. Minneapolis; Southeast Asian Refugee Studies.
- Duffy J, Harmon R, Ranard DA, Thao B, & Yang K. (Eds.), (2004). The Hmong: An Introduction to their History and Culture. Advance online publication. Hmong Retrieved from <http://www.culturalorientation.net>
- Lee GY. (2006). Diaspora and the Predicament of Origins: Interrogating Hmong Postcolonial History and Identity. *Hmong Studies Journal*. 8: 1-25.
- Lemoine J. (1986). Shamanism in the context of Hmong resettlement. In: Hendricks G, Downing B, Deinard A, eds. *The Hmong in Transition*.
- Miline J, Oberle K.(2005). Enhancing rigor in qualitative description. *Journal of WOCN.*; 32(6) :413-20. New York:Center for Migration Studies, 1986:337–348.
- Thao X. (1986). Hmong perceptions of illness and traditional ways of healing. In: Hendricks G, Downing B, Deinard A, eds. *The Hmong in Transition*. New York: Center for Migration Studies, 385–378.

THE EFFECT OF MOSQUITO COIL ON PEAK EXPIRATORY FLOW RATE (PEFR) IN SELECTED PUBLIC ELEMENTARY SCHOOL IN SOUTH SULAWESI

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ABSTRACT

Background: Children who were exposed by mosquito coil's smoke can cause respiratory and cardiovascular diseases. It will cause irritation, inflammation and increased of bronchial reactivity and may decrease the ability of mucociliary clearance thus it potentially causes wheezing, exacerbation of asthma, respiratory tract infections, chronic obstructive pulmonary disease and acute exacerbations of chronic obstructive pulmonary disease. It can reduce the Peak Expiratory Flow Rate (PEFR).

Purpose: This study aims to describe the peak expiratory flow rate of students who were exposed by mosquito coil's smoke based on age, sex, use of mosquito coils in one night, nutritional status and duration of exposure.

Method : This study used Quantitative Descriptive Study method to 138 students (grade 1-6 of elementary school in aged of 6-13 years old) who were exposed by mosquito coil's smoke as sample using Stratified Random Sampling technique in SDN Mallaulu 238, Puncak Indah Village, East Luwu District, South Sulawesi. This study was conducted from August 2014 to February 2015. Data were collected using a Peak Flow Meter, step weight scale, microtoise, and observation sheet. Analysis of data used univariate and cross tabulation.

Results: The results showed that 138 students (100%) were exposed by mosquito coils for ≥ 5 years and the use of mosquito coils per night. 126 students (91.3%) had low PEFR, 12 students (8.7%) had less PEFR. Mosquito coil's smoke exposed by gender was female majority by 73 students (52.9%); aged was 9.1 to 13 years old by 82 students (59.4%); and nutritional status was normal by 77 students (55.8%).

Conclusion: Students who were exposed by mosquito coil's smoke ≥ 5 years and use of mosquito coils in one night illustrated Peak Expiratory Flow Rate (PEFR) lower in female students and more common in grades 3-6 of elementary school students. Nursing implication improves the health education about the dangers of using mosquito coils and the importance of implementation in pulmonary examination program to elementary school students for early detection of PEF as an effort to decrease the prevalence of respiratory infections and reduce the risk of pulmonary abnormalities at the age of adulthood later.

Keywords: Peak Expiratory Flow Rate, Mosquito Coils

BACKGROUND

Air pollution is a leading cause of death in the worldwide, with households air pollution accounted about 3.5-4 million death each years and dominated by women and children who live in the lower economic class or in poverty because of frequent exposure to households air pollution (Stephen et al., 2014). Acute Respiratory Infections (ARI) is a disease that often occurs in children hood. The incidence in toddler age group (under five years old) was estimated to 0.29 episodes per child per year in developing countries and 0.05 episodes per child per year in developed countries. It shows that there are 156 million of new episodes per year in the world in which 151 million episodes (96.7%) occur in developing countries. Most cases occur in India (43 million), China (21 million) and Pakistan (10 million) and Bangladesh, Indonesia, Nigeria respectively 6 million episodes. From all cases occurring in the community, 7-13% was severe cases and required hospitalization. Episode of cold of toddlers in Indonesia was estimated to 2-3 times per year (Rudan et al., 2008).

Air pollution can cause a variety of diseases and disorders of body functions including respiratory problems (Ministry of Health, 2008). One source of indoor pollutants is smoke coils that can repel mosquitoes, but it is also a threat for health, especially to the respiratory system. Indonesia as a tropical area is a potential endemic area of some infectious diseases which any time can become a threat to public health. Geographic effect can lead an increase in cases and deaths of URTI (Upper Respiratory Tract Infection) patients, such as environmental pollution caused by smoke from forest fires, exhaust gases originating from transportation and air pollution inside home because of kitchen steam, smoking and mosquito coil's smoke endangering health, especially on URTI disease (Noer & Mutiatikum, 2009).

Tang et al, (2010) revealed that mosquito coils and lung cancer in Taiwan between 2002 and 2004 showed that the risk of lung cancer among smokers who were exposed by mosquito coil's smoke was 14 times higher than non-smokers without mosquito coil's smoke exposure. Among 33 provinces in Indonesia, there are five provinces with high incidence and prevalence of respiratory disorders particularly Pneumonia for all age groups. South Sulawesi was ranked on fifth (4.8%) after Nusa Tenggara Timur (10.3%), Papua (8.2%), Central Sulawesi (6.1%) and West Sulawesi (5.7%) (Riset Kesehatan Dasar, 2013). The spread of respiratory diseases in the city of Makassar as the capital of South Sulawesi was even fairly attacking children and adults. Number of URTI patients in Makassar was ranked in top 10 diseases and in 2012 there were 130.939 (19.64%) patients. While the main cause of the highest mortality of all ages were caused by asthma as many as 745 patients (health profile of Makassar, 2012).

URTI was a main cause of patient to visit community health centers (40% -60%) and hospitals (15% -30%) (Guidelines for Disease Control of ARI, 2012). Based on data obtained from the URTI program in Community Health Center of Malili, East Luwu District in South Sulawesi in 2014, URTI was in the top 10 diseases and was in the first rank by 5334 patients in 2013. It was still in the first rank in 2014 by 6275 patients with the average number of cases reached 500

patients per month. The highest number of cases found in Puncak Indah Village (Community Health Center of Malili, 2013).

From the results of a survey from house to house of URTI patients particularly in Puncak Indah village, program managers of URTI in community health center of Malili concluded that one of causes in URTI case was the use of mosquito coil continuously throughout the night in the room. This was supported by a previous study conducted by Liu et al (2003) that lit one of mosquito coil produced Particulate Matter (PM)_{2.5} that equals to 75-137 cigarettes. PM_{2.5} is very small particles (pollutant) in the air with diameter 2.5 micrometers or smaller, that cause respiratory and cardiovascular diseases. Acute exposure of PM_{2.5} will cause irritation, inflammation and increased bronchial reactivity and may decrease the ability of mucociliary clearance thus it potentially causes wheezing, exacerbation of asthma, respiratory tract infections, chronic obstructive pulmonary disease (COPD) and acute exacerbations of chronic obstructive pulmonary disease COPD (Bruce et al, 2000 in Arifa, 2010). For early detection of the disorder, it is necessary an examination of Peak Expiratory Flow Rate (PEFR) using a Peak Flow Meter. PEF is the maximum flow produced during expiration and done with maximum strength after full inspiration (Musmar & Minawi, 2010). People can normally exhale about 80% of vital capacity in a second, but on the contrary if the result is less than 80% means airway obstruction occurred (Price & Wilson, 2012).

Peak Flow Meter or *Peak Expiratory Flow Rate* (PEFR) is a tool to perform pulmonary function tests. Peak flow meter measurement was performed three times and the highest value in the measurement can be used to describe the function of lung ventilation. This tool can find out as early as possible the decline in lung function and airways narrowing or obstruction (Ariestianti et al, 2013).

OBJECTIVE

This study aims to describe the peak expiratory flow rate of students who were exposed by mosquito coil's smoke based on age, sex, use of mosquito coils in one night, nutritional status and duration of exposure.

METHODS

This study used Quantitative Descriptive Study method with 138 students (grade 1-6 of elementary school in aged of 6-13 years old) who were exposed by mosquito coil's smoke as sample using Stratified Random Sampling technique in SDN Mallaulu 238, Puncak Indah Village, East Luwu District, South Sulawesi. This study was conducted from August 2014 to February 2015. Samples were taken using stratified random sampling technique with exclusion criteria were the students and or family members experiencing respiratory disorders at the time when this study being conducted (eg, respiratory infections, asthma, bronchitis, cough, runny nose).

Data were collected by using Peak Flow Meter tool, step weight scales, microtoise, and observation sheet. Peak Expiratory Flow (PEF) measurement on students who were exposed by mosquito coil's smoke used a peak flow meter in liters /minute, with the method that was the students inhale deeply and then exhale

as strong as possible. The result would be seen in the low category if PEFR <300 L/min, less if PEFR 301-600 L/min, and normal if PEFR > 601 L/min. Results of measuring the use of mosquito coils per night was coil (coil, spiral, pieces) and exposed duration by mosquito coils based on the number of years since the children were exposed until this study being conducted.

Management of data in this study used computer with cross tabulation and frequency distribution of students including the distribution of class, sex, age, nutritional status, use of mosquito coils in one night, duration of exposure, and PEFR.

RESULTS

The results showed in Table 1, that the respondents were exposed by mosquito coils based on the characteristics of the respondents that the highest in grade 3 by 29 students (21.0%). Female students were majority exposed by 73 students (52.9%) while based on age was 9.1 to 13 years old by 82 students (59.4%). According to the characteristics of the nutritional status of the respondents, the number of students who were exposed by mosquito coils was the most in normal category by 77 students (55.8%).

Based on the characteristics and duration of using of mosquito coils per night, 138 students (100%) using mosquito coils 1 (one) per night over 5 years consumption. While low category of PEFR of students who were exposed by mosquito coils was 126 of 138 students (91.3%) and less category of PEFR was 12 students (8.7%).

Table 1

Frequency Distribution of Respondents by Class, Sex, Age, Nutritional Status, Use of Mosquito Coil / Night, duration of exposure, and PEFR in 2015 (N = 138)

| Characteristics of Participants | f | % |
|---------------------------------|----|------|
| Class | | |
| Class 1 | 22 | 15.9 |
| Class 2 | 16 | 11.6 |
| Class 3 | 29 | 21.0 |
| Class 4 | 23 | 16.7 |
| Class 5 | 27 | 19.6 |
| Class 6 | 21 | 15.2 |
| Sex | | |
| Male | 65 | 47.1 |
| Female | 73 | 52.9 |
| Age | | |
| 6.0 - 9.0 years | 56 | 40.6 |
| 9.1- 13.0 years | 82 | 59.4 |
| Nutritional Status | | |
| Very Thin | 20 | 14.5 |
| Thin | 34 | 24.6 |
| Normal | 77 | 55.8 |
| Fat | 7 | 5.1 |

| Characteristics of Participants | f | % |
|------------------------------------|-----|------|
| Use of Mosquito Coil /night | | |
| 1 Coil | 138 | 100 |
| >1 Coil | 0 | 0.0 |
| Duration of Coil Usage | | |
| <5 Years | 0 | 0 |
| ≥5 Years | 138 | 100 |
| PEFR | | |
| Low | 126 | 91,3 |
| Less | 12 | 8,7 |
| Normal | 0 | 0 |

Table 2 shows the sex characteristics of the respondents with PEF illustrates that a low PEF was majority in female by 70 respondents (95.9%) from 126 respondents with low PEF. Whereas in Table 3 shows that the age characteristics of the respondent with PEF illustrates that a low PEF was dominated by the aged of 9.1 years - 13 years as many as 70 students (65.4%). Table 4 illustrates that the low value of PEF was the highest in the normal nutritional status by 68 students (88.3%) from the 126 students with low PEF.

Table 2
Cross Tabulation Based on Sex Characteristics of Respondents with Peak Expiratory Flow Rate (PEFR) of Students who Exposed by Mosquito Coil

| Sex Characteristics | PEFR Category | | | | | | Total | |
|---------------------|---------------|------|------|------|--------|---|-------|-----|
| | Low | | Less | | Normal | | n | % |
| | n | % | n | % | n | % | | |
| Male | 56 | 86.2 | 9 | 13.8 | 0 | 0 | 65 | 100 |
| Female | 70 | 95.9 | 3 | 4.1 | 0 | 0 | 73 | 100 |
| Total | 126 | 91.3 | 12 | 8.7 | 0 | 0 | 138 | 100 |

Table 3
Cross Tabulation Based on Age Characteristics of respondents With Peak Expiratory Flow Rate (PEFR) of Students Who Exposed by Mosquito Coil

| Age Characteristics | PEFR Category | | | | | | Total | |
|---------------------|---------------|------|------|------|--------|---|-------|-----|
| | Low | | Less | | Normal | | n | % |
| | n | % | n | % | n | % | | |
| 6.0-9.0 years | 56 | 100 | 0 | 0 | 0 | 0 | 56 | 100 |
| 9.1-13.0 years | 70 | 85.4 | 12 | 14.6 | 0 | 0 | 82 | 100 |
| Total | 126 | 91.3 | 12 | 8.7 | 0 | 0 | 138 | 100 |

Table 4

Cross Tabulation Based on Nutritional Status Characteristics of Respondents with Peak Expiratory Flow Rate (PEFR) of Students who Exposed by Mosquito Coil

| Nutritional Status Characteristics | PEFR Category | | | | | | Total | |
|--|---------------|------|------|------|--------|---|-------|-----|
| | Low | | Less | | Normal | | n | % |
| | n | % | n | % | n | % | | |
| Very Thin | 20 | 100 | 0 | 0 | 0 | 0 | 20 | 100 |
| Thin | 31 | 91.2 | 3 | 8.8 | 0 | 0 | 34 | 100 |
| Normal | 68 | 88.3 | 9 | 11.7 | 0 | 0 | 77 | 100 |
| Fat | 7 | 100 | 0 | 0 | 0 | 0 | 7 | 100 |
| Total | 126 | 91.3 | 12 | 8.7 | 0 | 0 | 138 | 100 |

DISCUSSION

Students who were exposed by mosquito coils was dominated by female with lower PEFR than male students, this study showed that the lung capacity of male was higher than female. This was in line with the theory put forward by Pearce (2010) that the lung capacity of male was higher (4-5 liters) than female (3-4 liters). This capacity will be reduced when the airway is exposed continuously by pollutants that will cause respiratory tract irritation and thickening. If this continues for a long time the narrowed airway epithelium would lead to a lack of air entering the lungs. According to James Peterson, 2006 in (Quinene, 2014) from the American College of Sports Medicine that regular aerobic exercise increased the strength and function of the respiratory muscles and the diaphragm muscle where strong external intercostal muscles would increase the capacity of a person's vital to expand the chest cavity during inhalation (Price and Wilson, 2012). In general, men is more active than women as a study conducted by Professor William Sheel from the University of British Columbia which showed that respiratory metabolism during exercise is higher in men than in healthy women.

According to Goldsmith and Friberg, 1977 in Mukono (2008) that particles in and outside the room would cause disturbances in the human body. In general, the effects of these particles to the individual and society were acute and chronic disease, hidden diseases that can shorten the life of the individual (cancer), disturb the physiological function of the lungs, nerves and oxygen transport by hemoglobin. When humans inhale to breathe, then the air containing oxygen, nitrogen, carbon monoxide and other gases will also be inhaled into the lungs and reach the alveoli. HbCO levels (Hemoglobin Carbon monoxide) will increase when air containing pollutants are carried into the respiratory tract, so that the oxygen levels will be reduced because the Co molecules that catch most of the hemoglobin. Reduced oxygen levels in the blood will cause dizziness, discomfort in the eyes, ringing in the ears, nausea, vomiting, narrowing, shortness of breath, muscle weakness, fainting and even death.

Previous study conducted by Coman, Davis and Cornwell, 1991 in Mokuno (2008) stated that in general, the effects of mosquito coil's smoke (pollutants)

would cause respiratory irritation to the respiratory tract. Cilia movement would be slower, even stopped due to loss of cilia and cells lining mucus membranes so it could not clean the respiratory tract. If respiratory tract irritation occurred, there would be also an increased in mucus production that cause airways narrowing. Nadakavukaren, 1986 in Mukono (2008) also revealed that if the cilia could no longer active, inhaled particulates will be more carried into the lungs that impaired macrophage function and lead to edema of membrane mucous narrowing the respiratory tract. If the respiratory tract has narrowed the air flow will also be lower and cause PEFR decreased.

Liu et al (2003) said that the mosquito coil was equivalent to 75-135 cigarettes and generate $PM_{2.5}$. When breathing, $PM_{2.5}$ would be carried into respiratory tract causing irritation, inflammation and increased bronchial reactivity that reduced the ability of airway *clearance mukosiliar* and *hiperesponsivitas*, causing airway obstruction, increased of airway resistance and decreased of PEFR (Arifa, 2010). Exposure by pollutants has not had a significant impact at first because the body may be able to repair this damage, but changes in the lung tissue started when it continuously repeated. Normal cells lining the lungs will be damaged and it can affect the quality of individual life.

The same study by Tang et al (2010), stated that consequences as a result from frequent exposed by $PM_{2.5}$ could lead to airways remodeling, causing respiratory problems with the result that PEFR decreased, it was consistent with the results of this study that 9.1-13 years old experienced lower PEFR than the age of 6-9 years. The same theory is disclosed by Liu et al., (2003) that when mosquito coils lit, it would produce $PM_{2.5}$ from the incomplete combustion. When a person inhaled the air, $PM_{2.5}$ would also be inhaled to reach the bottom of the respiratory tract (alveoli). Therefore, the use of mosquito coils in a long time caused the exposure of pollutants by the chronic smoke, which caused abnormalities in the airway.

This study also showed that students exposed by mosquito coils had started to be exposed since childhood with an average of more than 5 years. Mosquito coil's smoke exposure in a long time will affect children's respiratory tract where diameter in childhood airway is smaller and easier narrowed due to mucous membrane edema and increased of secret production (Wong et al., 2009). The process of lung development in childhood is extremely valuable and as much as possible kept away from air pollution. Exposure to air pollution on childhood will affect the maximum capacity of the lungs to be achieved in adulthood (WHO, 2011; WHO, 2014)

Based on the nutritional status of children, the results of this study indicate that the peak expiratory flow of students who were exposed by mosquito coils with a normal nutritional status were not much different from the thin nutritional status. This was consistent with previous studies conducted by Muchlis, Said, and Madiyono (2005) entitled Pulmonary Function Tests on Street Children in Central Jakarta indicated that there were no difference of Peak Expiratory Flow Rate on street children with well-nourished and malnutrition status. Another factor caused the difference in peak expiratory flow rates could be caused by children physical

activities, for example frequent exercise can make a person's lung capacity greater.

Students use mosquito coils ≥ 5 years had lower PEFR and this was in line with a study conducted by Chen et al, 2008 in Arifa (2010) entitled the difference of PEFR percentages in women were exposed and not exposed by mosquito coil's smoke in Bengkoang, Sukoharjo, stated that a person would be decided being exposed by mosquito coils when used 3 coils per week for 5 years that decreased lung function. This was consistent with epidemiological studies conducted in Southern California since 1993 to determine the effects of air pollution on the development of lung function by around 1759 children at the age of 10 years old that passed measurements of lung function and repeated again at the age of 18 years old. The result showed that the influence of air pollution that causes lung function became worse according Gauderman 2004 in (Muchlis, Said, & Madiyono 2005).

Besides, according to study by Rahayu (2009), entitled Differences PEF due to air pollution in the Tirtonadi and Proliman Balapan terminal in Surakarta, stated that people who were exposed by air pollution would affect a change in respiratory tract such as mucous gland hyperplasia, mucosal thickening, respiratory muscle spasm and excessive mucus production, causing disturbances in lung function and decreasing PEF.

CONCLUSION

Students who were exposed by mosquito coil's smoke ≥ 5 years and use of mosquito coils in one night illustrated Peak Expiratory Flow Rate (PEFR) lower in female students and more common in grades 3-6 of elementary school students. Nursing implication improves the health education about the dangers of using mosquito coils and the importance of implementation in pulmonary examination program to elementary school students for early detection of PEF as an effort to decrease the prevalence of respiratory infections and reduce the risk of pulmonary abnormalities at the age of adulthood later.

REFERENCES

- Ariestianti, Iswita., Pangkahila, Alex, J. & Purnawati, S. (2013). Pemberian diaphragmatic breathing sama baik dengan pursed lip breathing dalam meningkatkan arus puncak ekspirasi pada perokok aktif anggota Club Motor Yamaha Vixion Bali di Denpasar. Diakses tanggal 17 Juni 2014 <<http://ojs.unud.ac.id/index.php/mifi/article/view/8473>>.
- Arifa, A. Y. (2010). Perbedaan persentase nilai Arus Puncak Ekspirasi (APE) pada wanita yang terpapar dan tidak terpapar asap obat nyamuk bakar di Bengkoang Sukoharjo. Diakses tanggal 8 Juli 2014 <<http://eprints.uns.ac.id/8449/>>.
- Departemen Kesehatan Republik Indonesia. (2012). *Pedoman Pengendalian Infeksi Saluran Pernafasan Akut*. Direktorat Jendral Pengendalian Penyakit dan Penyehatan Lingkungan. Kemenkes RI. Jakarta
- Departemen Kesehatan Republik Indonesia. (2012). *Profil Kesehatan Kota Makassar*.

- Departemen Kesehatan Republik Indonesia. (2013). *Laporan Tahunan Puskesmas Malili*. Indonesia.
- Kementrian Kesehatan Republik Indonesia. (2008). *Pedoman pengendalian penyakit paru obstruktif kronik mentri kesehatan republik indonesia*. Keputusan Menteri Kesehatan Republik Indonesia no.1022/menkes/skxi/2008, 15.
- Liu, W., Zhang, J., Hashim, J. H., Jalaludin, J., Hashim, Z., & Ggoldstein, B. D. (2003). Mosquito coil emissions and health implications. *Enviromental health perspectives*, 111 (12): 1.
- Muchlis, M., Said, M., & Madiyono, B. (2005). *Uji Fungsi Paru pada Anak Jalanan di Wilayah Jakarta Pusat*. Sari Pediatri , 7: 169-176.
- Mukono. (2008). *Pencemaran udara dan pengaruhnya terhadap gangguan saluran pernapasan*. Airlangga University Press: Surabaya.
- Musmar, M., & Minawi, W. A. (2010). Comparison of peak expiratory flow rates applying european and iranian equations to palestinian students. *Journal of Global Infectious Diseases* , 2 (2).
- Noer, D. P., & Mutiatikum. (2009). Penyakit ISPA Hasil Riskesdas Indonesia. *Buletin Penelitian Kesehatan*, 50-55.
- Quinene, P. (2014). The Relationship Between Vital Capacity and Body Mass. Diakses tanggal Maret 2015.
<<http://www.livestrong.com/article/198185-the-relationship-between-vital-capacity-and-body-mass/>>.
- Price, S. A., & Wilson, M. L. (2012). *Patofisiologi*, ed. 6., vol. 2. EGC: Jakarta, Indonesia
- Rahayu, S. (2009). Perbedaan persentase Arus Puncak Ekspirasi (APE) akibat polusi udara pada pedagang di Terminal Tirtonadi dan di Proliman Balapan Surakarta. Diakses tanggal 4 November 2014.
<<https://id.scribd.com/doc/51503175/140721108201003031>>.
- Riset Kesehatan Dasar. (2013). *Badan penelitian dan pengembangan* , 105-306.
- Rudan, I., Boschi-Pinto, C., Biloglav, Z., Mulholland, K., & Campbell, H. (2008). Epidemiology and etiology of childhood pneumonia. *Bulletin of the World Health Organization* , 86(5): 408-416.
- Stephen, G. B., Nnigel, B. G., Jonathan, G., Patricia, H. L., Om, K. P., Hubert, L. K.-B., et al. (2014). Respiratory risk from household air polution in low and middle income countries. *The Lancet Respiratory Medicine*, 2(10): 823-860.
- Tang, L., Lim, W.-Y., Eng, P., Leong, S. S., Lim, T. K., Tee, A., et al. (2010). Lung cancer in chinese women: evidence for an interaction between tobacco smoking and exposure to inhalants in the indoor environment. *Environmental Health Perspectives*, 118 (9): 1257-60.
- World Health Organization. (2009). Effects of air pollution on children's health and development. Diakses tanggal 8 November 2014
<<http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/publications/pre2009/effects-of-air-pollution-on-childrens-health-and-development-a-review-of-the-evidence>>.

- World Health Organization. (2011). Indoor air pollution. Diakses tanggal 8 November 2014.
http://www.wpro.who.int/mediacentre/factsheets/fs_201109_air_pollution/en/.
- World Health Organization. (2014). Indoor air pollution and health. Diakses tanggal 8 November 2014
<<http://www.searo.who.int/thailand/factsheets/fs0002/en/>>.
- Wong, L. D., Hockenberry-Eaton, M., Wilson, D., Winkelstein, M. L., & Schwartz, P. (2009). *Buku Ajar Keperawatan Pediatrik*. 6 ed., Vol. 2 (E. K. Yudha, Trans.) Jakarta: EGC.

ARTICLES



DAY 2

21st August 2015

THE EFFECT OF MUSIC THERAPY TO DECREASE PAIN SCALE IN CLIENT WITH POST OPERATION IN UNGARAN GENERAL HOSPITAL 2014

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ABSTRACT

Background: *In the post-operative period, the nursing process is aimed to stabilize at the patient's physiological and eliminate pain. Physiological reactions that increasing pain are autonomic nervous responses as breathing rate, increased pulse, adrenalin. Music is able to relieve pain, as sense of sick nerves and nerves for listening are the same, so by the time patients experience pain can be transferred to I listen to music.*

Objective: *The purpose of this study was to find out the effect of music therapy on pain scale reduction in postoperative patients.*

Methods: *The study was pre experimental research design using one-group pretest-post test. Sampling techniques using non-probability sampling that was accidental sampling with a sample of 27 respondents. To test this influence it was Wilcoxon test, this because the data were not normally distributed obtained with p-value 0.000 and $0.003 < \alpha (0,05)$.*

Results: *Based on the Wilcoxon test it showed that the average of pain scale at the time of pre-test was 4.63 with a standard deviation of 967. While the average of pain scale at the time of post-test was 3.85 with a standard deviation of 907. The Z value was -4.001 with p-value of 0.000. Therefore, $p\text{-value } 0.000 < \alpha (0.05)$, then H_0 was rejected.*

Conclusion: *It was concluded that there was a significant effect of music therapy on pain scale reduction in postoperative patients in Ambarawa General Hospital. Music can make a significant contribution in providing nursing intervention in patients of post-surgery pain in Ungaran General Hospital. Listen to music gives a sense of comfort, calm and able to divert the patient's attention to the pain.*

Keywords: *Pain, Post-operation, Music therapy*

BACKGROUND

Comfortable needs a condition make a feel comfort, protected from psychological threats, free of pain, especially pain. Comfortable changes can cause bad feeling, uncomfortable or no hearts respond from dangerous stimulus (Carpenito, 2001).

The statement of comfort according to nursing concept comfort as the basic needs of clients the purpose of the provision of nursing care. The concept of

comfort has the same subjectivity with pain. Everyone has a physiological characteristics, social, spiritual, psychological, and culture affecting the way they interpretation and feel pain (Potter & Perry, 2005). The process to everyone feel comfort especially cause of pain is something that must be responded the nurse to the clients as soon as possible because it can cause pain response Physical and psychological (Kozier & Wilkkinson, 1995).

The nurse intervention to relieve pain and restore comfort. Nurse can't see and feel the pain clients felt. Pain is subjective respond, individual prayer. There is no body can feel pain with similiar respondl. The source of pain is a cause of frustration, both clients and health workers. Pain is a major factor hampering the ability and willingness of individuals to recover from a disease (Potter & Perry, 2005).

According to (Guyton & Setiawan, 2007), there are three types of stimulus that stimulates pain receptors, for example mechanical, temperature and chemical. The pain may be felt different kinds of stimulation, all of this is classified as a mechanical pain stimulus, pain, temperature and chemical pain. In general, the pain quickly obtained through the stimulation of the type of mechanical or temperature, whereas slow pain can be obtained through the third kind.

According to (Sherwood & Brahm, 2003), there are three categories of pain receptors, namely: mechanical nociceptors is a response to mechanical damage, such as punctures, collisions or pinch, nociceptors ternal is a response to excessive temperatures, especially heat, polymodal nociceptors is similar to the response all kinds of destructive rangasangan, including chemical irritation released from injured tissue, because the benefits for survival, nociceptors can't adapt to stimuli persistent or repetitive. And according to (Kozier, 2004). Pain could be raised by several reasons, namely by mechanical or chemical ternal. One cause of pain is a mechanical form of surgery or surgery.

Surgery is all actions that treatment using invasive way to open or display the body part to be handled. The opening part of the body is generally used incision. Once the part is handled is shown. Surgical phases, are phase preoperative, intraoperative and postoperative (R. Sjamsuhidayat & Wim de Jong, 2004).

During the postoperative period, the nursing process is directed to re-establish equilibrium physiology of the patient, relieve pain and prevent complications. Careful assessment and immediate intervention helps patients back in optimal conditions with fast, safe and comfortable as possible (Smeltzer and Bare, 2002). Nursing priority is to reduce anxiety and emotional trauma, providing physical security, prevent complications, reduce pain, provide facilities for the healing process and provide information about the process of disease or surgical procedures, prognosis and treatment needs (Doenges, 2004).

Although the client's pain cause the effect of surgery can't be prevent , acute pain after major surgery at least have a positive physiological function, acts as a warning that care must be taken to prevent further trauma in the area. Pain after surgery can normally be predicted only occur in a limited duration, shorter than the time required for the natural repair of damaged tissues (Morison, 2004).

The nurses give nursing care to clients in various circumstances and situations, which provides intervention to provide comfort. Painful experience that is dynamic, nurses have a responsibility to understand the experience of pain. Nurses, clients, family and health care team members must collaborate to find the most effective approach in an effort to control the pain. Nurses ethically responsible to control pain and relieve the suffering of pain client (Potter & Perry, 2005).

Many clients and health team members usually give a drugs as the only method for decrease of pain scale. However, many nonpharmacologic nursing activities that can help to decrease of pain scale. Although there are some anecdotal reports on the effectiveness of these actions, a few of them that have not been evaluated through systematic research studies. Nonpharmacologic pain relief methods usually have a very low risk. Although such action is not a substitute for drugs, such action may be necessary or appropriate to shorten episodes of pain that lasts only a few seconds or minutes. In other respects, especially when severe pain that lasts for hours or days, combining nonpharmacologic techniques with drugs may be the most effective way to decrease pain (Smeltzer in Waluyo, 2001).

Although analgesic drugs very easily to be given, but many doctors and clients are less satisfied with the provision of long-term pain that is not associated with malignancy. This situation encourages the development of a number of nonpharmacological methods to overcome the pain. Nonpharmacological method for controlling pain can be divided into two groups: therapy and physical modalities (massage, electrical nerve stimulation with transcutis, acupuncture, application of heat or cold, sports) as well as cognitive behavioral strategies that are useful in changing the perception of the client to pain, pain behavior change, and gives the client feeling better able to control the pain. These strategies include relaxation, the creation of imaginary (imagery), hypnosis and biofeedback (Price in Brahm, 2005).

According to Carpenito (2001), distraction is deliberately focusing attention on other stimuli than pain stimuli. Distraction can be done in several ways, such as divert attention visual with counting objects and describe the object. Not all patients achieve relief through distraction, especially those in severe pain. With severe pain, patients may not concentrate well to participate in mental and physical activity complex.

Distraction is a method for pain relief by way of distracting the patient on other things so that the patient will forget to pain experienced. For example, a patient after surgery may not feel the pain when he saw a football game on television. The way how distraction can reduce pain can be explained by the theory of "Gate Control". At spina cord, cells that receive stimuli of pain receptors are inhibited by stimuli from peripheral nerve fibers other. Because the messages of pain to be slower than the messages diversional the door of the spinal cord that controls the amount of input to the brain shut down and the patient feels pain was reduced (Cummings 1981: 62). Some distraction techniques include: breathing slowly, massage while breathing slowly, listen to the music while clapped fingers or toes, or imagine the wonderful things with closed his eyes.

The type of distraction techniques, are visual distraction for example watching the games, watching television, read newspapers, see the sights and images including visual distraction. Distraction hearing: Among the preferred listening to music or the sounds of birds and water splashing, individuals are encouraged to choose the music you love and quiet music like classical music, and was asked to concentrate on the lyrics and the rhythm of the song. Clients are also allowed to move the body to the rhythm of a song such as swaying, tapping the finger or foot. (Tamsuri, 2007).

The American Music Therapy Association (1997), defines music therapy is a health profession that uses music and music aktivitas to tackle problems in the physical, psychological, cognitive and social needs of individuals with physical disabilities (Djohan, 2006).

Music Therapy World Federation (1996), music therapy is the use of music and musical elements (sound, rhythm, melody, and harmony) by a music therapist who has met the qualification to the client or group in establishing communication, improve relations interpersona learning, improving mobility, disclose expression, to organize themselves or to achieve a variety of other therapeutic purposes.

Music can reduce the stress. Stress even become a major factor heart disease. A nurse critical illness section of Dallas, Texas, Cathie Guzzetta found that using music therapy and relaxation techniques taught can slow the heart rate and reduce blood pressure (Mucci & Mucci 2002).

The kind of music can be a powerful deterrent against setres which causes high blood pressure. One result of the popular high blood pressure is stroke. With combine relaxation techniques and medications as well as the experience of listening to music, and than we will see a decrease the client's blood pressure (Mucci & Mucci, 2002).

One of the pioneers of music therapy is dr. Ralph Rpintge, an anesthetist of the hospital Hellersen sport in Ludenseheid Germany. The Hellersen, not just the rooms are equipped with music, but also space operations. Of modern technology equipment consisting of six channels, patients only need local anesthesia can choose the rhythm of the music you love from the Big-Band-Sound-style Gleen Miller to classical music. In the operating room, the headphones should be used. So far, most surgeons assess positively the use of music. In the research at the State University of New York at Buffalo, by listening to music players feel relaxed operation while doing his job. Blood pressure and heart rate to rise because they are heavy duty but only slightly. The need for a sedative down to 50 percent. In addition to this, since most patients are more relaxed when the surgery, complications are rare so the time can be shortened hospitalization (Sidik 1999).

The music can alleviate the suffering of clients from the pain, because the nerves when listening to music and sensory nerve pain is the similar function. So when the patient is undergoing surgery pain can be transferred by way of listening to music. This is why the dentists in Europe and in America to always steady gentle songs in the practice rooms. Dr. Raymond Bahr, is a special heart doctor in USA and the head part of the intensive care unit (ICU), always using music in the

treatment room at the critical care unit. It has been proven that in cases of cardiac arrest where patients require intensive care, one and a half hour listening to soft music has the same therapeutic effect as by using tranquilizer Valium 10 milligrams. Dr. John Diamond and Dr. David Nobel, has conducted research on the effects of music on the human body in which they concluded that the type of music that is heard when appropriate and acceptable by the human body, then the body will react by secreting a hormone (serotonin) that can lead to a sense of pleasure and fun, so the body will become stronger (by boosting the immune system) and makes us become healthier (Ucup, 2006). Thus nurses can conduct research or study of music that can be used to provide nursing interventions on patient pain, because music can provide a feeling of pleasure and comfort to the patient.

From the proliferation of music therapy has been applied among developed countries for example American and Germany, so the advice is aimed at increasing knowledge about music therapy and improve its development in Indonesia. The most practical activities that can be done is to play as background music tapes in various places, such as classrooms, practice rooms and surgery, ER, and others, when circumstances allow. Support to the circumstances allow. Support for the institutional development of music therapy as well as interdisciplinary research on music therapy can greatly assist the growth of music therapy in Indonesia (Halim, 2003).

The patients often experience pain is a patient who has performed the operation. Obtained 50 percent of patients with post-operative pain, and 2-3 percent of them end up as chronic pain. This case causes high due to the lack of knowledge in the pain, fear in the use of opioids and their view that reasonable when surgical patients feel pain (Tanra, 2004).

From the preliminary study carried out on 15 March 2014, the statistical data obtained in space Hospital Medical Records Ungaran, in the last one year period from 1 January to 30 December 2013, patients undergoing surgery as many as 2307 patients, of 2307 cases of post-surgery, 634 patients with severe surgery, 678 patients were surgery and minor surgery in 1009 patients. Whereas in the last 1 month the month of December 2013 there were 46 patients who either operating heavy operations, medium and small. The main problem that occurs in patients with postoperative pain namely, in the management of postoperative pain in patients during this time is to provide analgesic medication and relaxation techniques. Music therapy has not been done to address the nursing interventions in postoperative pain in patients

OBJECTIVE

1. General Objective

The general object of this study was to determine the effect of music therapy on a scale decrease postoperative pain in patients in hospitals Ungaran.

2. Special Objectives

- a. Identify the age of the patient experiencing postoperative pain in hospitals Ungaran.

- b. Identify the sex of the patients who experienced postoperative pain in hospitals Ungaran.
- c. Identifying patients with postoperative pain scale before being given music therapy in hospitals Ungaran
- d. Identifying patients with postoperative pain scale after the given music therapy in hospitals Ungaran
- e. Identify the effect of music therapy on pain scale decrease in postoperative patients in hospitals Ungaran.

METHODS

This research is a pre-experimental research design using one group pretest-posttest, that this design does not use a comparison group (control group) but has made the first observation (pre-test) which allows researchers can test the changes after the experiment (Setiadi, 2014). Prior to the act of music therapy, patients with pain that goes into the inclusion criteria pain scale measurements (pre-test). After pre-test respondents were given the treatment in the form of music therapy action. Then the research measurement of the client's scale of pain to looking for any change in pain scale before and after treatment

RESULTS

Characteristics of Respondents

1. Description of Respondents Research

Based on sample selection technique uses accidental sampling and selection of appropriate inclusion and exclusion criteria. An overview of the respondents that will be examined in this study were all clients with experienced postoperative pain in hospitals Ungaran, the number of respondents who obtained in this study a total of 27 respondents from the date of May 2, 2014 until May 29, 2014.

2. Sex

Based on research conducted found that of a total of 27 respondents frequency based on the male sex as much as 16 people (59.3%), and female gender were 11 people (40.7%).

3. Age

Based on research conducted found that of a total of 27 respondents frequency based on the age of majority in the age group 31 -40 years as many as 10 people (37.0%), and a small portion in the age group 61-70 years as many as 2 people (7,5%).

Univariate analysis

Univariate analysis in the study is used to give an idea of the scale of postoperative pain patients in hospitals Ungaran before and after music therapy intervention. Based on research conducted in stages that before being given music therapy intervention, most patients post surgery in hospitals Ungaran moderate pain, which is a number of 22 patients (81.5%). While experiencing a slight pain in 5 patients (18.5%).

Bivariate analysis

Bivariate analysis used in this study to determine the effect of music therapy to decrease pain scale clients in hospitals post surgery Ungaran. To test this difference Shapiro Wilk test was used with the results of the p-value of 0.000 and $0.003 < \alpha (0.05)$ can diartinya data obtained are not normally distributed. Therefore, non-parametric tests were used "Wilcoxon". Based on the research conducted that the average pain scale postoperative patients in hospitals Ungaran before music therapy given by 4.63, then the average pain scale was reduced to 3.85 after music therapy.

DISCUSSION

Based on Wilcoxon test values obtained Z count equal to -4.001 with p-value of 0.000. Therefore, p-value $0.000 < (0.05)$, then H_0 is rejected. It is concluded that there is a significant effect of music therapy on a scale decrease postoperative pain in clients in Ungaran General Hospital.

The music is assumed to arrange the fisiologic respon to make the person doing something as a nonverbal respond can influence auditory cortex as a hearing heaven and than can be connect with the deep structure can influence the nerve for example autonom nervus system. The music have showed to influence the nerve and give increase of endorphine. Christie Aschwanden (1991) said if the music has been famous to decrease of the stress respond.

CONCLUSIONS

1. Of the 27 respondents most clients with post surgery in hospitals Ungaran experiencing moderate pain, the number of 22 clients (94.1%). While experiencing mild pain only 5 clients (5.9%).
2. The majority of patients post surgery in hospitals Ungaran When given music therapy intervention experiencing moderate pain, which is a number of 18 patients (55.7%). While experiencing mild pain a number of 9 patients (66.7%).
3. There is the effect of music therapy on the scale decrease postoperative pain in patients in hospitals Ungaran.

REFERENCES

- Arikunto. Suharsimi. 2002. *Prosedur Penelitian Suatu Pendekatan Praktek* Edisi 5. Jakarta: Rineka Cipta.
- Arikunto, Suharsini (2010). *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.
- Black. M .I. Ester. M and Jacobs. 1997. *Medikal Surgical Nursing ; Clinical Managemen For Continivity of Care*. Tokyo: WB Saunder Company.
- Carpenito, (2001), *Diagnosa Keperawatan*, Jakarta, EGC.
- Crow, (2003). *Essential of mental helath nursing*. California, Addison Wesley Publising Company.
- Carpenito. I. J. 2001. *Diagnosa Keperawatan: Aplikasi Pada Praktek Klinis* Edisi 8. Alih Bahas Monika Ester. Jakarta: EGC.

- C. Rothrock, Jane, 1999, *Perencanaan Asuhan Keperawatan perioperatif* (Hal: 543), Jakarta: EGC
- Djafar, Nurseha, S. 2002, *Pengaruh Musik Gamelan Terhadap Respon Kecemasan Bayi Pada Saat Imunisasi Di Klinik Tumbang Anak RSUP Dr. Sardjito*. Fakultas Kedokteran Universitas Gajah Mada.
- Djohan. Nurseha. 2005. *Psikologi Musik*. Yogyakarta: Penerbit Buku Baik.
- Djohan. 2006. *Terapi Musik: Teori Dan Aplikasi*. Yogyakarta: Galang Press.
- Doenges, E. Marilyn. (2000). *Rencana Asuhan Keperawatan*. Edisi 3. Jakarta: EGC.
- Grace, A. Pierce, Neil R. Borley. 2006. *Ilmu Bedah*. Edisi Ketiga. Jakarta: Erlangga.
- Guyton & Hall. (2007). *Buku Ajar Fisiologi Kedokteran*. Edisi 2. Jakarta: EGC
- Guyton. Arthur C. 1997, *Buku Ajar Fisiologi Kedokteran Edisi 9*. Alih Bahasa Irwan Setiawan Jakarta: EGC
- Halim. Samuel, 2003. Efek Mozart dan Terapi Musik dalam Dunia Kesehatan <http://www.tempo.co.id/medika/aesip/012003/pus-2.htm>
- Hidayat, Aziz Alimul. (2007). *Metode Penelitian Keperawatan dan Teknik Analisa Data*. Edisi 2. Jakarta: Salemba Medika.
- Kasjmir Y. 2004. *Penatalaksanaan Nyeri Akut: Multimodal Analgesia* pada Temu Ilmiah reumatologi dan Kursus nyeri Ikatan Reumatologi Indonesia.
- Kozier, Blais and Wilkinson, ERB, 1995. *Fundamental Of Nursing Concepts Process. And Praktek II*. Addison Wesley Publishing Company.
- Long C. Barabara. 1996. *Perawatan Medikal Bedah (Suatu Pendekatan Proses Keperawatan)*. Bandung: Yayasan Ikatan Alumni Ikatan Pendidikan Keperawatan Pajajaran.
- Morison, 2004. *Manajmen Luka Alih Bahasa Tyasmono AF*. Jakata: EGC.
- Mangoenprasodjo, AS. Hidayati. SN, 2005. *Terapi Alternatif dan Gaya Hidup Sehat*. Yogyakarta: Pradipta Publising.
- Mucci, Kate & Mucci, Ricard, (2002), *The Healing Sound Of Music Manfaat Musik Untuk Kesembuhan, Kesehatan, dan Kebahagiaan Anda*. Jakarta: Gramedia Pustaka Utama
- Nursalam, 2003. *Konsep & Penerapan Metodologi Penelitian Keperawatan* (Pedoman sekripsi, tesis dan instrument penelitian keperawatan). Jakarta: Salemba Medikal.
- Nursalam. (2011). *Pendekatan Praktik Metodologi Riset Keperawatan*. Jakarta: CV Sagung Seto.
- Notoatmodjo, S. 2010. *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- Ridwan, 2005. *Belajar Mudah Penelitian Untuk Guru-Karyawan dan Peneliti Pemuda Bandung*: Alfabeta.
- Price, S, A., (2005), *Patofisiologi konsep klinis proses-proses penyakit*. Ed 6. (Alih Bahasa Brahm U, Editor, Huriawati Hartono). Jakarta: EGC
- Potter & Perry. (2005). *Buku Ajar Fundamental Keperawatan (Terj. Monica Ester, Devi Yulianti, Intan Parulian)*. Edisi 4. Volume 1 & 2. Jakarta: EGC.
- Potter, (2005). <http://puskesmas-oke.blogspot.com/2009/01/konsepterapi musik.html>. Diakses 03 maret 2010.

- Sjamsuhidayat, R, Wim de Jong. 2004. *Ilmu Bedah*. Edisi 2. Jakarta: EGC.
- Sidik Ampuhnya Musik Sebagai Terapi. <http://www.Indomedia.com/intisari/1999/januari/musik.htm>.
- Setiadi. (2013). *Konsep dan Praktik Penulisan Riset Keperawatan*. Edisi 2. Yogyakarta: Graha Ilmu.
- Siswanto. (2011). *Pendekatan Praktik Metodologi Riset Keperawatan*. Jakarta: Smeltzer. Suzanne C. Bare. Brenda G. 2002. *Buku Ajar Keperawatan Medikal Bedah*, Brunner Suddarth Edisi 8, editor edisi Bahasa Indonesia Monica Ester. Jakarta: EGC.
- Sugiyono. (2010). *Statistika untuk Penelitian*. Cetakan 16. Bandung: Alfabeta.
- Sherwood, L. (2001), *Fisiologi manusia dari sel ke sistem*. Ed 2. Cet Ke-1, (Alih Bahasa Brahm U, Editor Betricia 1, Aantoso), Jakarta; EGC
- Tanra, H, 2004. *Nyeri Pasca Bedah Pada Temu Ilmiah Reumatologi*, 2004 Dan Kursus Nyeri Ikatan Reumatologi Indonesia.
- Tamsuri, Anas. (2007). *Konsep dan penatalaksanaan nyeri*. Jakarta: EGC.
- Ucup, mang. 2006. *Musik Sebagai Terapi*. <http://www.freelists.org/archives/nasionallist/02-2006/msg00019.html>.

NURSES' PERCEPTION ABOUT SPIRITUAL NEEDS AND SPIRITUAL CARE OF CANCER PATIENTS

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ABSTRACT

Background: Nurses need to have a comprehensive perception about spiritual care for cancer patients. The patients experience various problems i.e pain, fatigue, anxiety, anger, depression, and fear of death. They tend to use spirituality as a coping for their problems. **Objective:** The purpose of this study is to describe the nurses' perception of the spiritual needs and spiritual care for cancer patients in Tugurejo hospital Semarang.

Methods: The data collection of this descriptive study was conducted from June to July 2015. Using a proportionate random sampling, 114 nurses, who had minimum 6 months of work experience in the medical and surgical wards, were enrolled in this study. The data were collected using Spiritual Care-giving Scale (SCGS) questionnaire consisting 35 statements. The tool used a 6-Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). **Results:** Spiritual needs and spiritual fulfillment were perceived by half of the subjects (n=58, 50.9%) as very important aspects in the cancer care. More than half of the subjects considered the five factors of cancer patients' spirituality as very important: attributes of spirituality (n=59, 51.8%), perspective towards spiritual needs (n=59, 51.8%), defining spiritual care (n=70, 61.4%), nurses' attitudes (n=60, 52.6%) and values in the spiritual care (n=58, 50.9%).

Conclusion: More nurses need to have a proper perception on spirituality, spiritual needs and spiritual care. This study suggests that more discussion and coaching among nurses about cancer patients' spirituality would be able to improve their knowledge and understanding about a comprehensive cancer patients' care.

Keywords : Nurses' perception, spiritual needs, spiritual care.

BACKGROUND

Cancer has ranked as the second highest cause of death worldwide after cardiovascular disease. The World Health Organization (WHO) reported in 2012, there were 14,1 million new cancer cases. It had increased significantly from 12,7 million cancer incidence in 2008 (WHO, 2012). In Indonesia, cancer disease makes 5.7% of the death toll, according to the Ministry of Health (Indonesian

Ministry of Health, 2014). Those who were diagnosed with cancer had to endure many problems which affected their physical, psychological, social as well as spiritual well-beings. Spiritual aspect, according to Richardson (2012), is an unequalled aspect in the holistic nursing care. It was reported by 67.9% of the cancer patients as a very important component which affected their quality of life (QoL) (Richardson, 2012). Richardson's study was supported by Pulchaski (2012) who stated that spirituality is an important element in the cancer care and a critical factor of the patients' coping. The patients used their spirituality to cope with their cancer diagnosis, cancer therapy and the period of end-of-life (Pulchaski, 2012). In another study, spirituality was found very beneficial to ease the cancer pain. The patients tried to find the meaning of cancer pain and the purpose of life by using spirituality. Moreover, they used spirituality to overcome their fear of death (Büssing & Koenig, 2010).

Spiritual needs can be fulfilled by the cancer themselves. The family and nurses can also support the patients to obtain their spiritual needs. In order to perform the spiritual care, nurses need to possess a comprehensive perception of the cancer patients' spiritual needs. The perception comprises the attributes of spirituality, perspective of spiritual needs, defining spiritual care, attitude and values toward spiritual care (Tiew, Creedy, & Chan, 2013). A pilot study (interview and observation) was conducted by the researchers prior to this study among five nurses in the medical and surgical wards of Tugurejo hospital, Semarang. It revealed that the nurses were more concerned about the physical treatment rather than the spiritual care. The nurses defined the spirituality care as more religiously activities that can be contained by offering prayers to the God. This phenomenon led the researchers to measure the perception of the nurses regarding the spiritual needs and spiritual care of cancer patients in Tugurejo hospital, Semarang.

OBJECTIVE

The aim of this study is to describe the nurses' perception of the spiritual needs and spiritual care for cancer patients in Tugurejo hospital Semarang.

METHODS

This study was a quantitative descriptive research. We used a proportionate random sampling to recruit the study samples from 160 nurses at the hospital. 114 nurses, from medical and surgical wards, who had worked at least for 6 months in the wards, were enrolled in this study. We excluded those who were in a maternity leave or pursuing their study. We run the data collection process between June and July 2015. The Spiritual Care-giving Scale (SCGS) questionnaire, which consists of 35 statements, was used as the tool in this study. SCGS comprises of five factors: attributes of spirituality, perspective towards spiritual needs, definition of spiritual care, nurses' attitude and values in the spiritual care. The tool has a 6-Likert scale ranging from 1 = strongly disagree to 6 = strongly agree. The validity and reliability test of this tool yielded the value of its content validity index (CVI) > .8 and Cronbach's alpha coefficient .97. We also collected the subjects' demographic data, including age, gender, religion,

education level, length of work experience, nursing competence level, and sources of spirituality knowledge. The data were analyzed using descriptive statistics and presented in frequency and percentage.

RESULTS

1. Subjects' Demographic Data

The average of the subjects were in the middle age ($n=70$, 61.4%) and majority of them had diploma education ($n=63$, 55.3%) (Table 1). Approximately half of them ($n=61$, 53.5%) had worked in the medical and surgical wards from 6 months to 2 years. Book was the main source (41.2%) that the subjects utilized to learn about spirituality (Table 1).

Table 1
Demographic Data ($N = 114$)

| Subjects Variables | Frequency | Percentage |
|--------------------------------------|-----------|------------|
| Age (years) | | |
| 20 – 29 | 70 | 61.4 |
| 30 – 39 | 40 | 35.1 |
| 40 – 49 | 4 | 3.5 |
| Gender | | |
| Male | 40 | 35.1 |
| Female | 74 | 64.9 |
| Education level | | |
| Diploma | 65 | 57.1 |
| Bachelor | 16 | 14.0 |
| Ners | 33 | 28.9 |
| Religion | | |
| Islam | 111 | 97.4 |
| Catholic | 3 | 2.6 |
| Length of working experience (years) | | |
| >.5 – 1 | 19 | 16.7 |
| >1 - 2 | 42 | 36.8 |
| >2 – 3 | 10 | 8.8 |
| >3 – 4 | 10 | 8.8 |
| >4 – 5 | 6 | 5.3 |
| >5 | 27 | 23.7 |
| Nurses competence level | | |
| Clinical Nurses 1 | 87 | 76.3 |
| Clinical Nurses 2 | 15 | 13.2 |
| Clinical Nurses 3 | 11 | 9.6 |
| Clinical Nurses 4 | 1 | 0.9 |
| Nurses Information Resource* | | |
| Book | 83 | 34.6 |
| Journal | 40 | 16.7 |
| Magazine | 18 | 7.5 |
| Newspaper | 20 | 8.3 |

| Subjects Variables | Frequency | Percentage |
|---------------------|-----------|------------|
| Television | 30 | 12.5 |
| Radio | 11 | 4.6 |
| Religion activities | 38 | 15.8 |

Note: *Respondents were allowed to choose more than one options

2. Nurses' Perception

Table 2 showed that more than half of the subjects perceived all five factors of spiritual needs and spiritual care as very important.

Table 2

Nurses' Perception on Five Attributes of Spiritual Needs and Spiritual Care (N=114)

| Factors | Perception (Importance) | Frequency | Percentage |
|---------------------------|-------------------------|-----------|------------|
| Attributes | Very | 59 | 51,8 |
| | Less | 55 | 48.2 |
| Perspective | Very | 59 | 51,8 |
| | Less | 55 | 48.2 |
| Spiritual Care Definition | Very | 70 | 61,4 |
| | Less | 44 | 38,6 |
| Nurses' Attitudes | Very | 60 | 52,6 |
| | Less | 54 | 47,4 |
| Values | Very | 58 | 50.9 |
| | Less | 56 | 49.1 |

Table 3 showed that it was only half of the subjects who perceived the spiritual needs and spiritual care as very important.

Table 3

Overall Nurses' Perception on Spiritual Needs and Spiritual Care (N=114)

| Overall Nurses' Perception | Frequency | Percentage |
|----------------------------|-----------|------------|
| Very important | 58 | 50.9 |
| Less important | 56 | 49.1 |

DISCUSSION

The result of this study showed that half of the subjects (50.9%) perceived spiritual needs as a very important component in the cancer patients' care. Every patient is a unique human being. The variety of physical, psychological, cultural and spiritual backgrounds had made them so. As a result, they responded towards the change of their health status differently from each other (Hamid, 2008). The fulfillment of spiritual needs gave a very significant effect on their QoL. The ability to cope with their health problems, understanding the meaning of life and enhancing their life spirit were further examples of spirituality's impact on cancer patients (Richardson, 2012).

Hanson (2008) reported that 41-94% patients wanted healthcare providers to assess their spiritual needs. However, not all nurses thought the spiritual needs as an important factor. There were nearly half of the subjects (49.1%) who perceived that spiritual needs for cancer patients as less important. This might hinder the achievement of a qualified spiritual care. This perception developed because the nurses had excessive workload, limited time to interact with cancer patients and high ratio between the nurses and the patients. Previous studies supported that limited time to perform nursing care, high workload and negative perception were the barriers in spiritual care.

1. Attributes in the Spiritual Care

It is very crucial for nurses to understand the attributes which comprise the spirituality aspect. Only half of the subjects regarded the attributes of the spirituality care as very important factors. The items of spiritual care attributes were spirituality awareness, life experience, coping, empathy, and trusting relationship between the nurse and the patient.

Nurses need to have a proper understanding about holistic care in the cancer care. The understanding of mind, body and soul concept in the holistic care needs to be properly integrated into the care for cancer patients. Spirituality as one of the aspects in the QoL of cancer patients correlates deeply with the concept of mind, body and soul. Inadequate fulfillment of this component would decrease the patients' QoL (Brady, Peterman, Fitchett, Mo, & Cella, 1999). A professional nurse would be able to show a full involvement in the patient's care, respecting patient's belief, empathy, and patience. The nurse must also be honest, thus can fully be trusted (Ali, 2000). Empathy, for instance, according to Widyarini (2005), gave a significant contribution to build a trust between a nurse and a cancer patient. These characteristics included in the attributes of spiritual needs and spiritual care of cancer patients.

2. Perspective Towards Spiritual Needs

This study result further showed that about half of the subjects (51.8%) perceived the perspective about spiritual needs as a very important aspect in the spiritual care of cancer patients. Nurses considered spirituality as a mean to sense or judge the good and bad things in life, purpose and energy in patients' life. Nurses also perceived spirituality as an integral part of patients' life.

Understanding about the meaning and purpose in life will help the patients to feel comfortable about themselves, physically and emotionally. Therefore, spirituality is a very significant component in the period of cancer illness. The lack of spiritual care would negatively affect the patients' QoL (Potter & Perry, 2005).

3. Definition of Spiritual Care

About two third of the subjects (61.4%) defined how spiritual care should be performed. Nurses strongly agreed that the items such as respecting religious belief of the patients, active listening, discussing and exploring patients' feeling as the most important ways to perform spiritual care. Although

the religious faith and belief between the nurse and the patient were different, a competent nurse would still support and provide a proper spiritual care for the patient (Hamid, 2008). In order to do so, nurses were required to be with the patients (physically and emotionally). The patients might recognize a proper spiritual care when the nurses actively listened to the patients' stories/complains, discussed and explored the patients' feeling thoroughly (Taylor, 2002).

However there were a few subjects (10.5%) who disagreed that respecting individual's religious belief and faith was the implementation of spiritual care. This perception could be influenced by the nurses' point of view about their religion and lack of knowledge. They strongly believed that their religion is the righteous. Moreover, the lack of knowledge about spirituality led to pre-judgmental action towards the patients' belief and performance.

4. Attitudes

Only half of the subjects (52.6%) considered that positive attitude in the spiritual care as an important factor. Those attitudes including providing support to the patients, gentle action, and being able to work in the team were listed as the most important attitudes to obtain a qualified spiritual care. Kindness or gentle action was agreed by two fifth of the subjects as the most influential attitude in performing spiritual care. This attitude also implemented that the nurses care for the patients. It further made the patients to feel more comfortable while receiving their cancer therapy and built more trust among them.

On the other hand, there were 9.6% of the subjects who felt uncomfortable in providing spiritual care. Koenig (2014) reported that uncomfortable feeling rose when the nurses were incompetent and had less knowledge on spirituality. Lack of experience and knowledge in spiritual needs and spiritual care could also make the nurses felt incompetent. It then would hinder a successful spiritual care. Emerging in more discussion among nurses and other healthcare team members would help to broaden nurses' knowledge on this issue.

5. Values

Moreover, the values in the spiritual needs and spiritual care were considered as very important by only half of the subjects (50.9%). Values in performing spiritual care can be as an indicator of individuals' understanding about spirituality. The values about spiritual needs and spiritual care comprised the meaning of human existence. This spirituality value is an inherent component in the holistic care.

The appraisal of human existence was strongly correlated with spiritual dimension (Tanyi, 2001). Spiritual dimension covered human's potency, human's character, creativity, conscience, intuition, love and religious faith (Cahyono, 2011). In the Integration Model approach proposed by Farran et al (as cited in Potter & Perry, 2005), spirituality represented the totality (holistic) of an individual's existence. It also functioned as a supporting perspective which united all life aspects of an individual. When somebody is sick, his/her

energy gets weaken. In this period the function of spirituality emerges as a supporting aspect to achieve recovery and strengthen the individual spirit to participate in the medical therapy.

CONCLUSION

To sum up, half of the subjects perceived that spiritual needs and spiritual care were very important, whereas the other half thought as less important. Lack of knowledge, lack of time to interact with cancer patients, lack of experience/incompetence, individual perspective about religion and excessive workload might be the main reasons for this less perspective about spiritual needs and spiritual care. More nurses need to have a proper perception on spirituality, spiritual needs and spiritual care. This study suggests that more discussion and coaching among nurses about cancer patients' spirituality would be able to improve their knowledge and understanding about a comprehensive cancer patients' care.

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REFERENCES

- Ali, Z. (2000). *Dasar-dasar keperawatan profesional*. Jakarta: Widya Medika.
- Balboni, M. J., Sullivan, A., Enzinger, A. C., Epstein-peterson, Z. D., Tseng, Y. D., Mitchell, C., ... Balboni, T. A. (2014). Nurse and Physician Barriers to Spiritual Care Provision at the End of Life. *Journal of Pain and Symptom Management*, 48(3), 400–410. <http://doi.org/10.1016/j.jpainsymman.2013.09.020>
- Brady, M. J., Peterman, A. H., Fitchett, G., Mo, M., & Cella, D. (1999). A case for including spirituality in quality of life measurement in oncology. *Psycho-Oncology*, 8, 417-428.
- Büssing, A., & Koenig, H. G. (2010). Spiritual Needs of Patients with Chronic Diseases. *Religions*, 1(1), 18–27. <http://doi.org/10.3390/rel1010018>
- Cahyono JBSB. (2011). *Meraih kekuatan penyembuhan diri yang tak terbatas*. Jakarta: Gramedia
- Hamid, A. Y. S. (2008). *Bunga rampai: asuhan keperawatan kesehatan jiwa*. (M. Ester & O. A. Tampubolon, Eds.) (1st ed.). Jakarta: Buku Kedokteran EGC.
- Hanson, L. C., Dobbs, D., Usher, B. M., Williams, S., Rawlings, J., & Daaleman, T. P. (2008). Providers and types of spiritual care during serious illness. *Journal of Palliative Medicine*, 11(6), 907–914. <http://doi.org/10.1089/jpm.2008.0008>
- Kementerian Kesehatan Republik Indonesia, R. (2014). Hilangkan mitos tentang kanker. Retrieved October 30, 2014, from <http://www.depkes.go.id>
- Koenig, H. G. (2014). The Spiritual Care Team: Enabling the Practice of Whole Person Medicine, 1161–1174. <http://doi.org/10.3390/rel5041161>

- Potter, P., & Perry, A. (2005). *Buku ajar fundamental keperawatan: konsep, proses, dan praktik*. (D. Yulianti & M. Ester, Eds.) (4th ed.). Jakarta: EGC.
- Puchalski, C. M. (2012). Spirituality in the cancer trajectory. In *Annals of Oncology* (Vol. 23, pp. 49–55). Oxford University Press.
<http://doi.org/10.1093/annonc/mds088>
- Richardson, P. (2012). Assessment and Implementation of Spirituality and Religiosity in Cancer Care: *Clinical Journal of Oncology Nursing*, 16(4), E150–E155. Retrieved from MEDLINE with Full Text
- Tanyi, R. A. (2001). Nursing theory and concept development or analysis: towards clarification of the meaning spirituality. *J Adv Nurs*, 39(19), 500–509.
- Taylor, E. J. (2002). *Spiritual care, nursing theory, research and practice* (1st ed.). Prentice Hall.
- Tiew, L. H., Creedy, D. K., & Chan, M. F. (2013). Student nurses' perspectives of spirituality and spiritual care. *Nurse Education Today*, 33(6), 574–9.
<http://doi.org/10.1016/j.nedt.2012.06.007>
- Widyarini, N. (2005). *Makna profesionalisme perawat dalam perspektif pasien: pendekatan kualitatif*. Jakarta: Salemba Medika.
- World Health Organization, W. (2012). NCD Mortality and Morbidity. Retrieved October 31, 2014, from http://www.who.int/gho/ncd/mortality_morbidity/en/

THE RELATIONSHIP BETWEEN FAMILY SUPPORTS TOWARD STRESS LEVELS AMONG BREAST CANCER PATIENTS AT SURGICAL ONCOLOGICAL CLINIC DR. KARIADI HOSPITAL SEMARANG

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ABSTRACT

Background: Breast cancer often causes death, physical symptoms, and alteration body condition and raises the side effect of therapy. So it is potentially can cause stress. This stresses influence on the immune system. So that, cancer patients need support and motivation from the family to be able to overcome the stress. The family support affects to the health and protect human from stress.

Purpose: To determine the correlation between family support toward stress levels of breast cancer patients.

Methods: This type of research is a quantitative research design which is use descriptive correlation technique, using cross sectional approach, with samples about 113 respondents in Surgical Oncology Clinic Dr. Kariadi Hospital Semarang.

Result: More than a half of respondent have perception about their family support is poor (51.3%). In the other side, stress levels among breast cancer patients in Surgical Oncological Clinic dr. Kariadi Hospital Semarang majority in mild level (37.2%). Family support has significant correlation with stress levels based on test results obtained bivariate chi-square $X^2 = 18.391$, with $p = 0.000$ ($\alpha = 0.05$).

Conclusion: There is a significant correlation between family support toward stress levels among breast cancer patients in Surgical Oncology Clinic dr. Kariadi Hospital, Semarang. The family is expected to provide support (material support, emotion support, and information support) to patients, to reduce stress levels during the treatment period.

Keywords: Family Support, Stress Levels, Breast Cancer

BACKGROUND

World Health Organization (WHO) shows the number of cancer patients every year in the world increased to 6.25 million people. In developed countries, cancer is the number two cause of death after cardiovascular diseases. The next ten years is estimated 9 million people worldwide will die from cancer each year (Stars, Ibrahim, Emaliyawati, 2012). This is in line with the statement of the

Minister of Health in the United Indonesia Cabinet, Supari as saying that cancer has become a serious threat to the people of Indonesia, the data show the number of cancer patients in Indonesia reaches 6% of the 200 million population of Indonesia (Lubis, 2009).

Data of Surgical Oncology Hospital Polyclinic dr. Kariadi, the number of breast cancer patients during the last three months of 2014, June, July, and August quite a lot. The number of breast cancer patients' visit is an average of visits in one month as many as 309 visits. While based on the medical records stated that the average number of patients per month ie 138 people (patients in a month to visit more than once), who underwent a variety of medical therapies.

The results of interviews with 15 patients in Polyclinic of Surgical Oncology dr. Kariadi Hospital on 9 September 2014, 10 people said that concerned with her illness. He asked, is there the possibility of recovery, why suffer from this disease, what sin so that this happens. Some say if during suffer from this disease, it seems there is no appetite to eat, so the body becomes thin. This triggered apart from the disease process itself, also caused by stress factors. Moreover he said embarrassed by the change of breast, sad, painful and uncomfortable so that his death would imagine later on, that haunts his mind.

Additionally 6 people say that her husband was not like before, when not ill. He often went and when asked sometimes angry. Clients do not know much about the disease, each for help on her husband to ask the doctor ignored, even he said that because of the pain, he should seek additional cost for the treatment. While his son said that he is now smells and dizziness if approached. Based on the above phenomenon, researchers are interested in conducting research on family support relationship with the level of stress on breast cancer clients.

METHODS

This type of research is descriptive correlation using cross sectional method. The population in this study is all breast cancer patients in Surgical Oncology Clinic Hospital Dr. Kariadi based on data for the month of October to the month of November 2014 on average in a month as many as 138 patients. Results of the study sample calculation based on the formula Slovin found the results of 113 respondents. Collecting data is using purposive sampling technique.

In this study, researchers used a research tool was a questionnaire consisting of three parts: A questionnaire consisted of demographic characteristics of survey respondents, include: age, education, occupation, income / economic conditions, marital status, type of therapy, long suffered from breast cancer, stage breast cancer. Questionnaire B consisted of family support variable using a Likert scale, with a score: 4 = always, 3 = often, 2 = sometimes, 1 = Never (for favourabel statement on the item; 1,3,4,6,8,9 , 10,11,13,14,15,16,19 and 20) and 1 = Always, 2 = Often 3 = Sometimes, 4 = Never (for unfavourabel statement on the item; 2,5,7,12 , 17,18 and 21) which consists of 21 items divided into four statements sub variables (emotional support, respect, instrumental, and informative). Questionnaire C is composed of a variable level of stress in breast cancer patients include stress mild, moderate, severe, and very severe, using a Likert scale consisting of 14 statements (ie items: 2,4,7,9,15,19,20, 23,25,

28,30,36,40,41), and each item statement assessed with a score: 0 = Never, 1 = Sometimes, 2 = Often, and 3 = Always.

RESULT

A. Characteristics of Respondents

Table 1. Frequency Distribution based on the characteristics of respondents in Polyclinic of Surgical Oncology dr. Kariadi Hospital January 2015 (n = 113)

| Characteristic | Frequency | (%) |
|--------------------------------------|-----------|------|
| Age | | |
| Middle Adult (26-35) | 15 | 13.3 |
| Late Adult (36-45) | 39 | 34.5 |
| Early Elderly (46-55) | 41 | 36.3 |
| Middle Elderly (56-65) | 17 | 15.0 |
| Late Elderly (>65) | 1 | 0.9 |
| Education | | |
| Elementary School | 57 | 50.4 |
| Junior High School | 23 | 20.4 |
| Senior High School | 32 | 28.3 |
| Diploma / S1 / S2 / S3 | 1 | 0.9 |
| Job | | |
| PNS / TNI / POLRI | 4 | 3.5 |
| Employee / Worker | 25 | 22.1 |
| Entrepreneur | 17 | 15.0 |
| Unemployment | 67 | 59.3 |
| Income | | |
| < UMR | 81 | 71.7 |
| = UMR (Rp. 1.423.500,-) | 18 | 15.9 |
| > UMR | 14 | 12.4 |
| Marital Status | | |
| Married | 102 | 90.3 |
| Single | 5 | 4.4 |
| Widow | 6 | 5.3 |
| Type of Therapy | | |
| Follow-up | 3 | 2.7 |
| Surgery | 10 | 8.8 |
| Chemotherapy | 81 | 71.7 |
| Surgery + Chemotherapy | 13 | 11.5 |
| Surgery + Radiotherapy | 1 | 0.9 |
| Chemotherapy + Radiotherapy | 3 | 2.7 |
| Surgery + Chemoterapy + Radiotherapy | 2 | 1.8 |
| Cancer Stadium | | |
| I | 21 | 18.6 |
| II | 37 | 32.7 |
| III | 42 | 37.2 |
| IV | 13 | 11.5 |

An addition, for long of illness among respondent is:

- Mean : 1.8 years
- Minimum : 0.2 years
- Maximum : 7 years
- SD : 1.21 years

Based on Table 1 it can be seen that the respondents almost evenly spread over the end of the adult age category and the initial elderly. The number of respondents in the category of elderly beginning more than the end of the adult age category of 41 people (36.3%). More than half of respondents had elementary education as many as 57 people (50.4%). Employment status most respondents are not working as many as 67 people (59.3%). The majority of respondents earn below the average minimum wage in Central Java as many as 81 people (71.7%). Almost all respondents are married that as many as 102 people (90.3%). This type of therapy respondent lived most is chemotherapy a number of 81 people (71.7%). Long suffering from cancer is an average of 1.8 years. The number of respondents spread evenly in stage II and stage III. The number of respondents stage III more than stage II by 42 people (37.2%).

B. Support Family

Table 2. Frequency Distribution based on family support in Polyclinic of Surgical Oncology dr. Kariadi Hospital January 2015 (n = 113)

| Family Support | Frequency | (%) |
|----------------|-----------|------|
| Good | 55 | 48.7 |
| Poor | 58 | 51.3 |
| Total | 113 | 100 |

Based on Table 2 can be seen that the group of respondents who got a good family support and poor are not much different. But the group of respondents who received support poor families more than having a good family support that is 58 people (51.3%).

C. Stress Levels

Table 3. Frequency Distribution is based on the level of stress in Polyclinic of Surgical Oncology dr. Kariadi Hospital January 2015 (n = 113)

| Stress Level | Frequency | (%) |
|--------------|-----------|------|
| Normal | 30 | 26.5 |
| Mild | 42 | 37.2 |
| Moderate | 32 | 28.3 |
| Severe | 9 | 8 |
| Total | 145 | 100 |

Based on the table 3 it can be seen that at most levels of stress in breast cancer patients in the mild category, as many as 42 people (37.2%).

D. Bivariat Analysis

Table 4 Relationship between Family Support Stress Levels in Patients with Breast Cancer Polyclinic of Surgical Oncology dr. Kariadi Hospital January 2015 (n = 113)

| Family Support | Stress Level | | | | | | X ² | P |
|----------------|---------------|------|-------------------|------|-------|------|----------------|-------|
| | Normal & Mild | | Moderate & Severe | | Total | | | |
| | n | % | n | % | N | % | | |
| Good | 46 | 40.7 | 9 | 8 | 55 | 48.7 | 18.391 | 0.000 |
| Poor | 26 | 28.3 | 32 | 23.0 | 58 | 51.3 | | |
| Total | 72 | 69 | 41 | 31 | 113 | 100 | | |

Based on Table 4 shows that the statistical test using chi-square X2 values obtained at 18.391, greater than X2 table = 3.841 with p value of 0.000 < (0.05). It shows that there is a significant relationship between family support with the level of stress in breast cancer patients in Polyclinic of Surgical Oncology dr. Kariadi Hospital Semarang.

DISCUSSION

The results showed the highest number of respondents with breast cancer in the category of elderly early. The increasing age also increase the number of respondents with breast cancer. Heffner and Danny said that the risk of breast cancer with increasing age a person (Heffner & Schust, 2006). More than half of the respondents have still low education (elementary level). A person with a higher level of education the better the person's coping mechanisms, and vice versa, the lower the educational level the less well someone coping mechanisms that person anyway. Greatly affect a person's coping mechanisms, especially in terms of finding a solution to a problem he was facing (Davey, 2006). According to Brink and Wood coping mechanism is the specific method used to reduce stress (Brink & Wood, 2006).

Employment status most respondents are not working as many as 67 people (59.3%). Based on the above data the majority of survey respondents did not work (unemployed). According to the idea, someone who does not work or losing a job will experience psychosocial stress is quite heavy and could be the main cause of mental emotional disorder (Ide, 2010).

Income respondents based on the results of the study showed as many as 81 people (71.7%) at less than the minimum wage. According to Sudarsono, people who have sufficient income even more lives will be calm compared with those who are economically mediocre or less (Sudarsono, 2007). With financial resources are limited, these families focusing all energies for basic needs in an effort to survive (Christensen & Kenney, 2009).

Marital status most respondents fall into the category of a married some 102 people (90.3%). According McKhann and Albert are some situations that can increase the stress a person who is a life experience with high stress levels and over a long period include: changes in marital status, change in employment status, a serious illness in family members or himself, or a death in the family especially spouses (McKhann & Albert, 2010). So, marital status can affect the family support and the patient's own stress.

Research shows the number of 81 people (71.7%) underwent chemotherapy program. Chemotherapy is an anti-cancer therapy to kill the tumor cells by interfering with cell function and reproduction (Miller, 2008). As a result

of the impact of the chemotherapy patients will undergo a physical disorder or physical fatigue that would be more susceptible to stress (Ganisswarna, 2004).

The results showed long respondents had cancer 1.8 years on average. Based on further analysis, the numbers of respondents who have had breast cancer during the first year in the category of mild stress are as many as 18 people. In contrast to patients with newly diagnosed breast cancer or who had undergone chemotherapy program the first time they look more agitated and kept asking when the chemotherapy program. If someone does not adapt to the conditions he was experiencing, would cause problems not only physically, but also psychologically (National Safety Council, 2006).

The results showed stage cancer suffered by the respondents as many as 42 people (37.2%) fall into the category of stage III. Research conducted by Hammerlid et al showed that, in patients with more advanced tumor stage report a score Health-related Quality of Life (HQL), which is significantly worse for 24 of the 32 variables that reflect the function (functioning) or problems (Hammerlid et al, 2001). In addition, the low breast self-examination among the public because it is still a lack of information in society.

Most of the family support is given to breast cancer patients in the unfavorable category. According to Stuart & Sundeen, benefits the family is a haven for anyone, especially for patients with chronic disease conditions that have been terminal. Another benefit is the support of one's family help in resolving the problem, if there is support from the family, the confidence will grow and motivation to deal with problems that occur will increase (Tamher & Noorkasiani, 2009). Most of the stress levels in breast cancer patients in the mild category, as many as 42 people (37.2%).

The results showed significant correlation between family support with the level of stress in breast cancer patients in Polyclinic of Surgical Oncology dr. Kariadi Hospital. Some similar research has also been conducted, and the results are in line with the above research. Baider et al, in her study about "Is family support relevant variables on the incidence of psychological distress in patients with prostate and breast cancer" by using instruments Brief Symptom Inventory (BSI) and the Perceived Family Support (PFS), the results showed patients with high psychological pressure back to a lower level because of the support of family, especially of his life partner (Baider et al, 2003).

CONCLUSIONS AND SUGGESTIONS

More than a half of respondent have a poor family support (51.3%). While the level of stress in breast cancer patients in Polyclinic of Surgical Oncology dr. Kariadi Hospital in the category of mild stress (37.2%). There is a significant relationship between family support with the level of stress among breast cancer patients in Polyclinic of Surgical Oncology dr. Kariadi Hospital with the value $X^2 = 18.391$ and $p = 0.000$. Patients family have to provide support to patients, to reduce stress levels during the treatment period, include of material support, emotion support, and information support. Besides that, the family is expected to further increase awareness of the provision of information, knowledge, guidance, advice or feedback on the patient.

REFERENCES

- Baider, L., Hadanib, P. E., Goldzweig, G., Wygodaa, M. R., Peretza, T. (2003). *Is perceived family support a relevant variable in psychological distress? A sample of prostate and breast cancer couples*. Israel: University of Jerusalem; El Sevier.
- Bintang, Y. A., Ibrahim K, Emaliyawati E. (2012). *Gambaran tingkat kecemasan, stres dan depresi pada pasien kanker yang menjalani kemoterapi di salah satu RS di kota Bandung*. Students e-Journals.;1(1).
- Brink, P. J. & Wood, M. J. (2006). *Langkah dasar dalam perencanaan riset keperawatan: Dari pertanyaan sampai proposal*. Jakarta: EGC.
- Christensen, P. J., Kenney, J. W. (2009). *Nursing process: Application of conceptual models*. Jakarta: EGC; 2009.
- Davey, P. (2006). *At a glance medicine*. Jakarta: Erlangga.
- Ganiswarna, S. G. (2004). *Farmakologi dan terapi*. Jakarta: Bagian Farmakologi Universitas Indonesia.
- Hammerlid, E., Bjordal, K., Ahlner-Elmqvist, M., Boysen, M., Evensen, J. F., Björklund, A., Jannert, M., et al. (2001) A prospective study of quality of life in head and neck cancer patients. Part I: At diagnosis. *LARYNGOSCOPE*. 111(4); p669-680
- Heffner, L. & Schust, D. J. (2006). *At a glance sistem reproduksi*. Ed. 2. Jakarta: Erlangga.
- Ide, P. (2010). *Whole brain training for social intelligent*. Jakarta: Elex Media Komputindo.
- Lubis, N. L. (2009). *Dukungan Pada Pasien Kanker Perlukah*. Medan: USU Press.
- McKhann, G. & Albert, M. (2010) *Keep your brain young*. Yogyakarta: Media Pressindo.
- Miller, G. (2008). *Pencegahan dan pengobatan penyakit kanker*. Jakarta: Prestasi Pustakaraya.
- National Safety Council. (2006). *Manajemen stres*. Jakarta: EGC. 6-7p.
- Sudarsono. (2007). *Kearifan lingkungan dalam perspektif budaya jawa*. Jakarta: Yayasan Obor Indonesia.
- Surbakti. (2009). *Kenalilah anak remaja anda*. Jakarta: Elex Media Komputindo.
- Tamher & Noorkasiani. (2009). *Kesehatan usia lanjut dengan pendekatan asuhan keperawatan*. Jakarta: Salemba Medika.

RESTRAINT TO SCHIZOPHRENIC FAMILY MEMBER AT HOME: FAMILY EXPERIENCE IN KENDAL DISTRICT CENTRAL JAVA

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ABSTRACT

Baccground: Schizophrenic is functional psychological disorder with main disruption on thinking process and disharmony. Schizophrenic patients often suffer deprivation by their family.

Objective: This study aimed to identify in-depth description of family's experience in restraint of schizophrenic patients treated at home in Kendal District Central Java.

Method: This research used descriptive phenomenological design and in-depth interview as data collection method. Participants involved in this study were family member of schizophrenic patients that are being restrained and selected by purposive sampling. Data that has been collected was in the form of recorded interviews and field notes and analyzed by Collaizi technique.

Results: Themes identified from this study are chronic sorrow; 2) effective social interaction; 3) enhanced spiritual wellbeing; 4) decisional conflict; 5) health seeking behaviours; and 6) economic burden.

Conclusion: The results showed similarities on family experience starting from chronic sorrow, effective social interaction; enhanced spiritual wellbeing; decisional conflict; health seeking behaviours; and economic burden. The care providers have to improve the family coping mechanism to be adaptive by a counseling of the problem.

Keywords: Schizophrenic, family, restraint.

BACKGROUND

This contextual research is based on preliminary studies by the researcher towards two families. The reason of these families to do the restraint is resolving the violence problem and injury because of the action taken by the sufferer. These families said that their family member was on psychiatric disorder and they did not only rampage but also injured people around them. So their family was obliged to restrain them in a beam of wood and binding with chains in a wooden couch.

In Indonesia, some people choose to handle the sufferer of psychiatric disorder by doing restrain. Even their family deliberately dislocate the sufferers because of they are regarded as a disgrace. Thus when the family knows one of

their members starts to develop the symptoms of psychiatric disorder and considering possessed by spirits, their family would take them to a shaman. (Depkes, 2011)

According to the Basic Health Research or Riset Kesehatan Dasar (Riskesdas) in 2007, the numbers of mental and emotional disorder (anxiety and depression) on ≥ 15 years old people was around 19 million people. Whereas the numbers of hard psychiatric disorder was a million people. The sufferers who came to get health facilities was $< 10\%$. These data was developed by the estimation of restraint by the family toward people with psychiatric problems or Orang Dengan Masalah Kejiwaan (ODMK) was around 13.000 until 18.000 psychiatric disorder sufferers who restraint in all around Indonesia. (Depkes, 2011)

According to Minas and Diatri (2008), their research showed that the causes of the family restrained the sufferers to prevent the violence, preventing suicide, and the disability to treat the sufferers. The research from Nurdiana and friends mentioned that the family has an important role to determine what kind of action that client needs at home so it will decrease the recurrence rate.

Based on this fact, the researcher formulated the research problem "How is the family experiences on restraining towards their family member who suffers from schizophrenia at home in Kendal, Central Java?"

OBJECTIVE

Getting information deeply about restrain towards schizophrenic family member at home in Kendal, Central Java.

METHODS

This research used qualitative research. The research design used phenomenology studies. Phenomenology used as research method to find the essence of an experience. (Raco, 2002)

The research sampling used purposive technique. The purposive sampling technique is a part of non-probability sampling technique. Hance on Polit & Beck (2006) stated that the principle to determine the numbers of informants is the achievement of data saturation. According to Daymon, C. & Holloway I. (2008) the numbers of samples on a phenomenology research were about not more than 10 informants. This research used 6 informants as the samples.

The process of analysis used the steps from Colaizzi. The arguments from Streubert & Carpenter (1999), the reasons of choosing analysis method based on the suitability of Husserl's philosophy, that an appearance of phenomenon will only exist when the subject experience the phenomenon itself (informants). There are 7 steps of Colaizzi analysis by Polit & Beck (2006), as stated bellow:

1. Reading all the transcripts to feel what is delivered by the informants.
2. Reviewing every transcript and looking for some important and meaningful statements.
3. Formulating the meaning of every single statement which important and meaningful.
4. Set the data that has been formulated in a group of theme.

5. Combining all results into a complete description from phenomenology studies that has been done.
6. Formulating a complete description and illustrate it based on statements from the informants clearly.
7. Asking questions to the participants about the themes appear as a step of final validation. The clarification of theme will be valid if that theme has been analyzed.

RESULTS

The research data in the form of transcript and field notes that analyzed using phenomenology method was developed by Collaizi. The researcher identified 6 themes as the results of this research. There are:

1. Theme 1. Chronic Sorrow/ Grieving the Loss of a Family Health Status (Family Member)

Chronic sorrow stated by all informants to express their sadness and grief. Some informants showed non-verbal aspects glistened with tears and some other informants cried in their interview. Here is the statements from an informant related to the problem : "...yes I'm so sad,... the sadness is more then anything"

2. Theme 2. Effective Interaction

Social interaction arises related to fulfill the family socialization with people or society. This theme is identified by the expression that shows uncomfortable feeling to the neighbor. Nevertheless, all informants could manage a good relation with the society. That data can be seen as follows:

"...I'm not comfortable with my neighbor when my child rampaged or when he walked everywhere, although mostly of my neighbor understood this condition..."

3. Theme 3. Enhanced Spiritual Wellbeing

Enhancing spiritual wellbeing for the informants and their family was identified where all the informants said about increasing of spiritual respond. They did it in some ways for examples being patient, being resigned, praying and preserving the worship to God. This statement was drawn on the expression bellow:

"...we could only be resigned and pray to God..."

4. Theme 4. Decisional Conflict

The decisional conflicts for the informants and their family arose on the theme after analysis process. The expression from informant was in form of restrain although it was not justified. Although they did not have the heart to do the restraint but they did not have another way to solve this condition. The restraint was considered to save the sufferer from injury, self-destructive and environment destructive. Here is the statement from one of the informants:

"Actually, I do not have the heart to do this. Yet, when I remembered the incident he came home with a battered face, it made me think maybe it would be better if I tie him than he go everywhere and bad things happened to him..."

5. Theme 5. Health Seeking Behaviours

Health seeking behaviours was identified after the analysis process because there are statements from the informants. The statement was about they took the patient to a Muslim cleric or “kyai”, a doctor, a community health clinics or “puskesmas” and an asylum. The effort to look for health assistance will be shown in the statement bellow:

“...I went to “pak kyai” or a shaman...”

6. Theme 6. Economic Burden

The economic burden of the family arose from the data analysis based on the statements identification from the informants. This theme could be in a form of statements about poor family. They had to sell their soil or their important things to pay the medication and they had to work hard for it. This statement was explained by an informant as follows:

”We are a poor family, we sold our garden... we live from hand to mouth,... we tried to ikhtiar...”

DISCUSSION

1. Tema 1. A Chronic Sorrow/ Grieving the Loss of a Family Health Status.

A chronic sorrow is a pattern of a deep sadness experience which recurrent progressive potential in responding to the continue loss. The characteristic limitation of chronic sadness is a great feeling of sadness and repeatable and could affect the personal ability with one expression or more of their sadness, depression, anger, frustration, fear and the feeling of helpless (NANDA, 2005).

The deep sadness in a long term or chronic sorrow can be categorized that the informant is in the depression stage. The end of Kubler-Ross coping cycle that happens in someone is receiving, continue with reorganizing and managing their emotional for their survival, showing the new hope, and new spirits in a save and comfortable condition. (Susan, et, al, 2005)

2. Tema 2. The Effective Interaction

The damage of social interaction according to NANDA (2005), is not an enough number or ineffective social interaction quality. The characteristic limitation of this problem is an existing of the expression that shows an uncomfortable in social situation. The related factors towards ineffective social interaction is the lack of knowledge about how to improve quality, the incompatibility socio-cultural and environmental barriers (NANDA, 2005)

Kelliat’s argument (1996) on Sari (2009) there is one of family member with mental disorder automatically will affect the relation pattern and the family behavior towards the environment. The interference of social interaction occurs because of a response from the family that the environment looked a family member with mental disorder as an individual who is considered diverge from the values and norms in society that are considered dangerous and should be shunned.

3. Tema 3. Enhanced Spiritual Wellbeing

Enhancing spiritual wellbeing is an ability to experience and integrate the meaning and the purposes of someone life that will be related to himself, people, and God or the power that stronger than him. The characteristics limitation that

related to himself is the lack of hope and surrender or being resigned to God, and also an increasing coping. Whereas something that related to God or the stronger power is by showing the diligence and obedient of worship and praying (NANDA, 2005)

This similar to what is written by Subandi and Utami (1996) in their research that mentioned the statements from the informants about being resigned to God. The coping form by the family and the informants is facing the reality and doing self transcend. The family considers that all the problems are a trail from God.

4. Tema 4. Decisional Conflict

Decisional conflict is uncertainty of the effect of the action when the choice between those actions involve the risks, loss or challenging of the value of people's life. The characteristics limitation of this phenomenon is the distress feeling when they take action related to the lack of relevant resources.

According to Carpenito (2000) about decisional conflict is a condition where an individual or a group experiences an uncertainty about the process of action if they face the choices that involve risks, loss or challenging. Both of these definitions are appropriate with the statement from the informants. The informant knows that restrain is not true. Yet they had to do this because of safety reason of the sufferer, people around them and the environment.

The research by Minas and Diatri (2008) states that the reason why the family and the society restrain is preventing the suicide and the family inability to treat the mental disorder person. The similar reason stated by Puteh and friends (2010) on their research, the family do restrain because of the aggressiveness of the patient and because of the safety reason. This restrain by the family is also similar with what stated by Depkes (2011) about another reason of doing restrain is the mental disorder patient endanger himself, people around him and the environment, medical treatments are affordable, financial problem and also people and the family have minimum knowledge about mental disorder.

5. Theme 5. Health Seeking Behaviours

The health seeking behaviors are actively seeking behavior (by people with a stable health status) to change someone and or environment health status for achieving a better health status. (NANDA, 2005). The result of Subandi and Utami's research (1996) identified the place to find health assistance can be moved from one professional to the other. For example from an orderly to a doctor or from a doctor to the other one. From a non professional to the other for example from a shaman to the other shaman or from a Muslim cleric or "kyai" to the other one. This effort can be moved from a professional one to a non professional one and vice versa. The research by Suryani and friends (2011) stated that the effort of taking a medication by people can be done in two ways there are cultural approach and religion in Bali by spiritual therapy and medical approach.

6. Theme 6. Economic Burden

People in under economic class often get difficulties to adjust themselves in solving problems. (Gunawan, 2002). Kelliat's argument (1996) in Sari (2009) is a person with mental disorder in a family is not directly bring internal conflict on that family includes physical aspect, mental and financial aspects. Depkes (2011) stated that one of the reasons of restraint is economic problem.

Economic burden according to WHO (2008) on Sari (2009), the family is the main part of economic or financial burden because of their family member is a mental disorder person. Financial burden will appear when the sufferer or the family cannot fulfill the medication needs.

CONCLUSION

1. A chronic sorrow/ grieving the loss of a family health status is identified by the appearance of feeling sad, crying, and being glistened with tears. The sadness will be different if the measurement is done in an acute phase where the family is in a short time to overcome the loss phase compared with the family that has been in chronic phase.
2. The effective interaction in this research there are a social relation that do not change or do not have any problems to socialize with the society.
3. Enhancing spiritual wellbeing is identified because of the expression from the participants or the informants who state that the problem between a family and a schizophrenic family member is a trail from God. The reactions are being patient, being resigned, pray to God and always try to be closer with worship.
4. The decisional conflict is identified because of the family is forced to do restrain although it is unjustified. The family reasons of doing this to save the sufferer from injury, self-destruction, people destruction and environment destruction.
5. The health seeking behaviors is identified by all participants and families. The effort of looking for a medication to improve a health status is done through the facilities of health caring such as a doctor, a community health clinic or "puskesmas" and an asylum. Whereas the effort through non-medical by following a therapy in an Islamic boarding school and a Muslim cleric "kyai" or a shaman.
6. The economic burden in this research is affected by the family economic condition. The informants are under economic community. People in under economic class often get difficulties to adjust themselves in solving problems.

REFERENCES

- Carpenito, LJ., (2000), Buku Saku DiagnosaKeperawatan, Edisi 8, Jakarta, EGC.
- Cresswell, Jhon., W, (2010), Reseach Desain Pendekatan Kualitatif, Kuantitatif dan Mixed, Edisi 3, Yogyakarta, Pustaka Pelajar.
- Daymon, C & Holloway, I (2008), Metode-Metode Riset Kualitatif dalam Public relations dan Marketing Communications (terjemahan). Yogyakarta, Penerbit Bentang.
- Dempsey, P. A & Dempsay, A. D (2002). Riset Keperawatan : Buku Ajar dan Latihan (terjemahan), Edisi 4, Jakarta, EGC.

- Depkes (2011), Indonesia Bebas pasung 2014, Diunduh 24 Desember 2011, dari <http://www.depkes.go.id>
- Depkes (2011), Riset Kesehatan dasar Nasional 2007, diunduh tanggal 13 Januari 2012 dari www.depkes.go.id
- Depkes (2011), Program Pengembangan gangguan jiwa di Puskesmas. Diunduh tanggal 27 Januari 2012 dari www.hukor.depkes.go.id
- Dinkes Kabupaten Kendal (2011), Kondisi kesehatan masyarakat di Kabupaten Kendal, Diunduh 3 Januari 2011, dari <http://www.dinkes.kendalkab.go.id>
- Dinosetro (2008), Hubungan Antara Peran Keluarga Dengan Tingkat Kemandirian Kehidupan Sosial Bermasyarakat Pada Klien Skizofrenia Post Perawatan di Rumah Sakit Jiwa Menur. Diunduh tanggal 1 April 2012 dari <http://dinosetro.multiply.com/guestbook?&page3>.
- Dowling, M (2005), From Husserl To Van Manen. A Review of different Fenomenological Approaches, Center For Nursing Study, National of University Ireland, Galway, Ireland.
- Friedman, Marylin, M., (1998), Keperawatan Keluarga, Teori dan Praktik (terjemahan), Edisi 3, Jakarta, EGC.
- Friedman, Marylin., Vicky R. Bowden., Elaine G. Jones. (2002). Buku Ajar Keperawatan Keluarga : Riset, Teori & Praktik (terjemahan). Edisi 5. Jakarta : EGC.
- Georgi, A (1997), The Theory, Practice, and evaluation of the Fenomenological Methode as A Qualitative research Procedure, Journal of Phenomenological Psychology, Lawton Avenue, Oakland, CA.
- Gunawan. (2002). Stigma Gangguan Jiwa. diunduh tanggal 3 Pebruari 2012 <http://www.tempo.co.id/medika/arsip/032002/sek-2.htm>
- Hawari, D. (2001). Pendekatan holistik pada gangguan jiwa. Jakarta : Fakultas Kedokteran Universitas Indonesia.
- Isaacs, Ann, (2005), Panduan Belajar Keperawatan Kesehatan Jiwa dan Psikiatrik (terjemahan),. Edisi 3, Jakarta, EGC.
- Keliat, B.A. (1996). Hubungan terapeutik perawat-klien. Jakarta, EGC.
- Kusumawati, F & Hartono, Y., (2010). Buku Ajar Keperawatan Jiwa., Jakarta, Salemba Medika.
- Koch, T (1995), Interpretive Approach in Nursing Rsearch: The Influence of Husserl and Heidegger, Journal of Advance Nursing, Australia.
- Maramis, W.F (2006), catatan Ilmu Kedokteran Jiwa, Jakarta, Airlangga University Press.
- Minas, H dan Diatri, H (2008), Pasung : Physical Restrain and Confinement of The Mentally Ill In The Community, Diunduh tanggal 12 Februari 2012 dari <http://creativecommons.org>
- Mubin, M, F, (2008), Pengalaman Stigma Pada Keluarga dengan Klien Gangguan Jiwa Di Kota Semarang. FIK, UI.
- Nanda (2005), Panduan Diagnosa Keperawatan Definisi dan Klasifikasi,____, Prima Medika
- Nasir, A & Muhith, A. (2011),. Dasar-dasar Keperawatan Jiwa : Pengantar dan Teori, Jakarta, Salemba Medika.

- Nurdiana, Syafwani, Umbransyah (2007), Peran Serta Keluarga Terhadap Tingkat Kekambuhan Klien Skizofrenia, Jurnal Ilmiah Kesehatan Keperawatan, Volume. 3 No. 1
- Palley, J (1997), Husserl Phenomenology and Nursing, Principal Research Fellow, Institute for Health Service Research, University of Luton, England.
- Polit, D. F & Beck, C. T (2006), Essential Of Nursing Research, Methods, Appraisal and Utilization. Philadelphia, Lippincott Williams & Wilkins.
- PPDGJ-III (2001), Diagnosis Gangguan Jiwa, Jakarta, Ilmu Kedokteran Jiwa Unika Atma Jaya.
- Puteh, et. Al (2010), Aceh free Pasung : Releasing The Mentally Ill from Phisical Restraint, Journal of mental Health System 2011, <http://www.ijmhs.com/content/5/1/10>
- Raco, J.R (2002), Metode Penelitian Kualitatif, Jenis, Karakteristik dan Keunggulannya (terjemahan), Jakarta, Grasindo.
- Santana, S (2010), Menulis Ilmiah Metodologi penelitian Kualitatif. Edisi Kedua. Jakarta, Yayasan Pustaka Obor Indonesia.
- Sari, Hasmila (2009), Pengaruh family Psichoeducatie terhadap Beban dan Kemampuan Keluarga Dalam Merawat klien Pasung di Kabupaten Bireun, FIK UI.
- Setiadi, 2008, Konsep dan Proses Keperawatan Keluarga, Surabaya, Graha Ilmu.
- Setiawati, S & Dermawan,A.C, 2008. Penuntun Praktis Asuhan Keperawatan Keluarga, Edisi khusus, Jakarta, Trans Info Media.
- Setyowati, S & Murwani, A, 2008, Asuhan Keperawatan Keluarga, Konsep dan Aplikasi, Edisi Revisi, Yogyakarta, Mitra Cendekia.
- Streuebert, H.J., & Carpenter, D.R., (1999). Qualitative Research in Nursing Advancing Humanistic Imperative.(2nd ed), Philadelphia, Lippincott.
- Subandi dan Utami, M. S, (1996), Pola Perilaku Mencari Bantuan Pada Keluarga dengan gangguan Jiwa berperan dalam perawatan terhadap keluarga dengan gangguan jiwa. Yogyakarta, Universitas Gadjah Mada.
- Suryani, N. L, et. al, (2011), Treating the untreated: applying a community-based, culturally sensitive psychiatric intervention to confined and physically restrained mentally ill individuals in Bali, Indonesia, Eur Arch Psychiatry Clin Neurosci (2011) [261 \(Suppl 2\):S140–S144 DOI 10.1007/s00406-011-0238-y](https://doi.org/10.1007/s00406-011-0238-y)
- Susan at al, (2005). Fundamental of Nursing. St.Louis, Missouri, elsavier Mosby.
- Videbeck, Sheila, L, (2008), Buku Ajar Keperawatan Jiwa (terjemahan), Jakarta, EGC.

NUTRITIONAL ASSESMENT AND FACTORS AFFECTING CHILDREN'S NUTRITION STATUS IN SAMIRANAN VILLAGE, KANDANGAN DISTRICT, TEMANGGUNG, CENTRAL JAVA

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ABSTRACT

Background: Nutritional status highly affects both physical and mental development of toddlers, especially during the first two years of life. Physically, undernourished child will grow up to become a short-sized adult (Sodioetama, 2009). In addition to this, the cognitive development will also not be optimum hence affecting the language ability (Benford, Walton, Ahn, 2013) and social ability. A report from Health Office, Temanggung City shows that percentage of acute undernourished toddlers is 0.90%, undernourished 13.50%, adequately nourished 83.80% and over nourished toddlers 1.90%.

Objective: This research aimed to describe current nutritional status and its affecting factors of toddlers in Samiranan Village, Kandangan District, Temanggung Regency.

Method: A survey was done using questionnaire on 128 toddlers and 81 toddlers who were not weighed in April 2015. Nutritional status was assessed using Z-Score (WHO, 2005) and presented in percentage. Structured interviews were then carried out to identify factors affecting toddlers nutritional status.

Result: This research shows that based on weight for age index, there are 79.7% adequately nourished toddlers, 18.0% undernourished toddlers and 2.30% acute undernourished toddlers. On the other hand, based on height for age index, the data are 50.8% normal, 39.0% short 8.60% very short (poor) and 1.60% tall. Nutritional status assessment on 66 toddlers shows that according to the weight for age index, there are 57 adequately nourished toddlers, 7 undernourished and 2 acute undernourished toddlers.

Conclusion: Affecting factors of toddlers nutritional status in Samiranan village are: economy, mother's lack of knowledge, educational level, nutrition intake and parent's work.

Key Words: *Toddlers, Nutritional Status, Affecting Factors*

INTRODUCTION

Nutrition plays an important part in toddlers' development, especially within the first two years of life. Lack of nutrition in this particular time will hinder the development in all physical, mental and social aspects. Physically, undernourished children will grow to short-sized adults (Sodioetama, 2009).

Further, cognitive development that impacted on language ability will not happen maximally (Benford, 2013). Language ability is aligned with cognitive development that closely related to protein intake during child development years. Underdeveloped language ability will cause the children to withdraw from social environment.

Nationally, Riskesdas shows that the numbers of under nutrition toddlers in 2007, 2010 and 2013 are 18.4%, 17.9 % and 19.5%. To add up, the data also shows that the case of stunting reached 37.2% of total toddlers in Indonesia. Under nutrition among toddlers in Indonesia is a serious matter. In 2012, Indonesia has become the 5th country with nutrition problem. Out of 24 million toddlers, there are only 48% pronounced save from nutritional issue (www.nasional.republika.co.id, March 13th, 2015 Based on this particular reality, it is proper that Indonesian Government should take a more look on the issue as has been also referred to in MDG's globally.

RESEARCH SETTING

Health Office of Temanggung City. 2013, showed that the percentage of malnutrition, under-nutrition, adequate nutrition and over nutrition are respectively as follows: 0.90%, 13.50%, 83.80%, 1.90%. A more detailed data of toddlers nutritional status in Temanggung 2009-2013 is presented in table 1.

Table 1. Toddlers nutritional status in Temanggung, year 2009-2013

| No | Nutritional Status | Year | | | | |
|----|--------------------|-------|-------|-------|-------|-------|
| | | 2009 | 2010 | 2011 | 2012 | 2013 |
| 1 | Malnutrition | 1,36 | 1,75 | 0,68 | 1,34 | 0,90 |
| 2 | Under-Nutrition | 13,89 | 6,12 | 14,16 | 11,20 | 13,50 |
| 3 | Adequate Nutrition | 83,20 | 83,61 | 83,59 | 1,53 | 83,80 |
| 4 | Over Nutrition | 1,55 | 8,52 | 1,12 | 85,93 | 1,90 |

Source: Health Office of Temanggung Regency, 2013

During the last five years, the lowest percentage of toddlers' malnutrition happened in 2013 and the highest percentage is in 2010, as the table shows. The percentage of malnutrition in Temanggung for the last five years is always below 10%, considered in low category based on WHO standard and still below national target of <5%. Also, lowest under-nutrition percentage happened in 2010 and the highest was in 2013. This research presents nutrition profile of toddlers in Samiran Village, Kandangan Sub-District, Temanggung Regency.

METHOD

Time and Location

This research is conducted in Samiran Village, Kandangan Sub-District, Temanggung Regency, in April 2015.

Population

Population in this research is all toddlers age 0-5 years old, registered in POSYANDU from 4 hamlets in Samiran Village, which are Tegesan (27 toddlers), Sendang (36 toddlers), Samiran (83 toddlers) and Maguwo (63 toddlers). Total population is 209 toddlers. Total toddlers attended POSYANDU when the research was done was 128 children while 81 others were absent during the weighing.

Data Collection

Data was collected through anthropometric measurement, interview and direct observation. Toddlers nutritional status was based on anthropometric measurement (weight/age, height/age and weight/height index). Data on important factors that causes under-nutrition were collected through participatory observation and both formal and informal interviews with parents and health cadres during POSYANDU weighing and visits to parents' house.

Data Processing and Analysis

Data collected are analyzed both qualitatively and quantitatively. Nutritional status categories (normal/under) were determined based on Z-score w/a, h/a and w/h. Toddlers with Z score of less than -3 SD are categorized malnutrition, -3 SD up to -2 SD are under nutrition and >-2 SD up to +2 SD are normal while more than +2 are categorized over.

RESULTS

Toddlers of Samiran Village, Kandangan Sub-District, Temanggung Regency are spread in 4 hamlets which are (I) Samiran, consists of 8 RT; (II) Maguwo, consists of 6 RT; (III) Tegesan, consists of 3 RT; and (IV) Sendang, consists of 3 RT. Each hamlets held toddler POSYANDU (in the picture, bold-printed RT are the place of POSYANDU) to provide easier access for parents and toddlers, including RT 1 and RT 2 in Samiran village which located in quite some distance from POSYANDU in RT 5. From this village, city is about 20-13 minutes away while it only took 10 minutes by vehicle to reach the nearest Pukesmas.

Research Participants

On the time of data collection, there are 128 toddlers while 81 others did not attend the weighing in April 2015. Out of 81 absent toddlers, 6 were not participating since 2014, 4 has aged more than 60 months old, 2 were scared, 3 were moved to other villages and although 66 others did not attend the weighing on April 2015, their anthropometric data can be obtained in registry book for the period of January 2015-March 2015.

Total number of toddlers in Samiran village is 209 (shown in Table 2.), mostly are male (53.1%) and mostly are in group age of 49-60 months old (23.9%).

Table 2. Toddlers Characteristics, Samiran Village (N=209)

| No | Characteristic | N | % |
|----|----------------|-----|------|
| 1 | Gender | | |
| | Male | 111 | 53.1 |
| | Female | 98 | 46.9 |
| 2 | Age (month) | | |
| | 0-12 | 47 | 22.5 |
| | 13-24 | 41 | 19.6 |
| | 25-36 | 37 | 17.7 |
| | 37-48 | 34 | 16.3 |
| | 49-60 | 50 | 23.9 |

Table 3. Participants Characteristics, Samiran Village, April 2015 (N=128)

| No | Characteristic | N | % |
|----|----------------------|----|------|
| 1 | Jenis Kelamin | | |
| | Male | 68 | 53.1 |
| | Female | 60 | 46.9 |
| 2 | Age(Month) | | |
| | 0-12 | 37 | 28.9 |
| | 13-24 | 27 | 21.1 |
| | 25-36 | 23 | 18.0 |
| | 37-48 | 21 | 16.9 |
| | 49-60 | 20 | 15.6 |

Table 3 shows that out of 128 participants, 68 are male (53.1%) and mostly are 0-12 months old (28.9%).

Nutritional Status based on Weight/Age

Table 4. Nutritional Status based on weight/age in Samiran Village, April 2015 (N=128)

| No | Status Gizi | N | % |
|----|--------------------|-----|------|
| 1 | Adequate Nutrition | 102 | 79.7 |
| 2 | Under-Nutrition | 23 | 18.0 |
| 3 | Malnutrition | 3 | 2.3 |
| 4 | Over-Nutrition | - | - |
| | Σ | 128 | 100 |

The above table shows that most toddlers are in normal status = 102 toddlers (79.7%). However, there are 23/18.0% under-nutrition (underweight) toddler and 3/2.3% malnutrition toddlers.

Table 5. Nutritional Status based on Gender in Samiran Village,
April 2015 (N=128)

| No | Gender | Nutritional Status | | | |
|----|--------|--------------------|-----------------|--------------|----------------|
| | | Adequate Nutrition | Under-Nutrition | Malnutrition | Over-Nutrition |
| 1 | Male | 51 (39.8%) | 15 (11.7%) | 2 (1.5%) | - |
| 2 | Female | 51 (39.8%) | 8 (6.2%) | 1 (0.8%) | - |
| Σ | | 102 (79.6%) | 23 (17.9%) | 3 (2.3%) | - |

Data shows that most of both male and female toddlers have adequate nutrition respectively 51 toddlers (39.8%). Under-nutrition status is dominated by 15 male toddlers (11.7%). The same condition occurred in malnutrition cases with 2 male toddlers (1.5%).

Table 6. Nutritional Status based on Age Group in Samiran Village,
April 2015 (N=128)

| No | Age (Month) | Nutritional Status | | | |
|----|-------------|--------------------|-----------------|--------------|----------------|
| | | Adequate Nutrition | Under-Nutrition | Malnutrition | Over-Nutrition |
| 1 | 0-12 | 31 (24.2%) | 4 (3.1%) | 2 (1.5%) | - |
| 2 | 13-24 | 25 (19.5%) | 4 (3.1%) | - | - |
| 3 | 25-36 | 17 (13.2%) | 4 (3.1%) | - | - |
| 4 | 37-48 | 14 (11.0%) | 7 (5.4%) | - | - |
| 5 | 49-60 | 15 (11.7%) | 4 (3.1%) | 1 (0.8%) | - |
| Σ | | 102 (79.65) | 23 (17.95) | 3 (2.3%) | - |

The recorded data shows that group 0-12 months mostly have good nutrition (31 toddlers/24.2%) while under-nutrition cases mostly happen in 37-48 months old age group which is 7 toddlers (5.4%).

Table 7. Nutritional Status Based on Height/Age in Samiran Village,
April 2015 (N=128)

| No | Nutritional Status | N | % |
|----|--------------------|-----|------|
| 1 | Normal | 65 | 50.8 |
| 2 | Short | 50 | 39.0 |
| 3 | Very Short | 11 | 8.6 |
| 4 | Tall | 2 | 1.6 |
| Σ | | 128 | 100 |

The table shows that based on height/age index, 49.2% toddlers are categorized abnormal with 39.0% short (50 toddlers), 8.6% very short (11 toddlers) and 1.6% tall (2 toddlers).

Table 8. Nutritional Status according to Height/Age Index based on Gender in Samiran Village (N=128)

| No | Gender | Nutritional Status | | | |
|----|-----------|--------------------|------------|------------|----------|
| | | Normal | Short | Very Short | Tall |
| 1 | Laki-laki | 27 (21.1%) | 30 (23.4%) | 7 (5.5%) | 1 (0.8%) |
| 2 | Perempuan | 38 (29.7%) | 20 (15.6%) | 4 (3.1%) | 1 (0.8%) |
| Σ | | 65 (50.8%) | 50 (39.0%) | 11 (8.6%) | 2 (1.6%) |

The above table shows that stunting cases are experienced mostly by male toddlers. There are 30 (23.4%) short toddlers, 7 (5.5%) very short ones and 1 (0.8%) tall babies.

Table 9. Toddlers Body Length based on Age Group in Samiran Village (N=128)

| No | Age (Month) | Nutritional Status | | | |
|----|----------------|--------------------|------------|------------|----------|
| | | Normal | Short | Very Short | Tall |
| 1 | 0-12 | 19 (14.8%) | 16 (12.5%) | 1 (0.8%) | 1 (0.8%) |
| 2 | 13-24 | 17 (13.3%) | 9 (7.0%) | 3 (2.3%) | - |
| 3 | 25-36 | 5 (3.9%) | 9 (7.0%) | 6 (4.7%) | - |
| 4 | 37-48 | 9 (7.0%) | 11 (8.6%) | 1 (0.8%) | 1 (0.8%) |
| 5 | 49-60 | 15 (11.7%) | 5 (3.9%) | - | - |
| Σ | | 65 (50.8%) | 50 (39.0%) | 11 (8.6%) | 2 (1.6%) |

Based on body length measurement, most toddlers in age group 0-12 months are normal although the number of toddlers with short measurement is also dominated by the same age group. Toddlers with very short body length mostly come from the age group of 26-36 months.

Absent Toddlers Characteristics

As been elaborated before, out of 209 total population, there were only 128 toddlers attended the weighing session in April 2015. The 81 toddlers who did not attend the session were tracked down in order to gain a complete data. Based on POSYANDU registry book, the following data is obtained in regards to the gender of 81 absent toddlers:

Table 10. Absent Toddler Gender (N=81)

| No | Characteristics | N | % |
|----|-----------------|----|------|
| 1 | Gender | | |
| | Male | 44 | 54,3 |
| | Female | 37 | 45,7 |

Further tracking on existing data starting 2014 until March 2015 resulted in: 66 toddlers are still registered in POSYANDU despite the lack of participation, 4 toddlers has reached the age of more than 60 months old in January and February 2015 (pass the program), data of 2 toddlers are not found in the registry book, 3 toddlers moved out of the village, 6 toddlers has not attend POSYANDU

since 2014 up to March 2015. In order to determine the nutritional status of these 66 toddlers, data of their weight during January – December 2014 was obtained from registry book. However, there is no data on their height hence nutritional status for 66 toddlers were determined by weight/age index with the following result:

Table 11. Absent Toddler Nutritional Status based on Weight/Age Index (N=66)

| No | Nutritional Status | Σ | % |
|----|--------------------|----------|------|
| 1 | Adequate Nutrition | 57 | 86.4 |
| 2 | Under-Nutrition | 7 | 10.6 |
| 3 | Malnutrition | 2 | 3.0 |
| 4 | Over-Nutrition | 0 | 0 |

On February and March 2015, there were 42 toddlers in the weighing session of POSYANDU who did not participate in April 2015. Their nutritional status analysis is as follows:

Table 12. Toddlers Nutritional Status, weighed in February and March 2015, Absent in April 2015 (N=42)

| Month | Nutritional Status | | | |
|---------------|--------------------|-----------------|--------------|----------------|
| | Adequate Nutrition | Under-Nutrition | Malnutrition | Over-Nutrition |
| February 2015 | 9 | - | - | - |
| March 2015 | 30 | 2 | 1 | - |

As previously mentioned, there are toddlers with no data in the registry book. An interview with village midwife revealed that these toddlers are afraid of the activity since they had been injected before during POSYANDU. Mrs. S., parents of toddler K also confirmed that:

"My child is very afraid of injection. I brought my child to POSYANDU but he cried hard refused to be weighed so I did not bring him again the following months".

For 6 toddlers who are not listed in registry book, weighing was done directly in their houses with results: 2 under-nutrition toddlers, 2 adequate-nutrition toddlers and toddlers are not at home.

DISCUSSION

Weighed Toddler Nutrition Status

1. Toddlers Nutrition Status Based on Weight/Age Index

Table 4 shows that most toddlers (102/79.7% out of 128/100%) are in normal/adequate category of nutritional status. However, there are still 23 (18%)

under-nutrition toddlers (underweight) and 3 (2%) toddlers with malnutrition status. Further, out of 209 total toddlers registered in POSYANDU, only 128 came in the time of research/ therefore there are 81 (38.7%) toddlers who were absent from POSYANDU, April 2015. Further investigation on 81 remaining toddlers resulted in: 11 under-nutrition toddlers and 3 malnutrition toddlers. While data from Health Office, Temanggung Regency claimed that under-nutrition percentage is increasing from 11.20% in 2013 to 13.50% in 2014, it is subject to further tracking. If the percentage is only based on the toddlers participating in POSYANDU, then the data should be adjusted to include the ones absent from the activity for they may contribute significantly to the numbers.

Interview with local/village midwife revealed that several causal factors are economic condition, mother's lack of knowledge in regards to nutritional intake and educational level. Economic condition is linked closely with parent's occupation where most parents work as labor in other people's farm, brick man, vegetable seller and also farmer. The incomes are low and not a fixed monthly one. Low family income will surely affected the ability to provide a high quality and adequate quantity of food. Low family income also contribute to poverty number and poverty is a contributing factor to children insufficient nutrition intake that affected one's cognitive function in later life (Brown & Pollitt, 1996). In their research, Midyat et. Al (2011) showed that children from low socio-economic consumed more carbohydrate and lee protein and fat. Further according to Patodo (2012), the higher the family income, the better toddler's nutritional status and otherwise.

In regards to mother's knowledge, interview result exposed that most parents are not paying attention to toddler's nutritional intake. Mrs. K, a participant, stated that although she exclusively brestfed (0-6 months) her baby, she does not know what to feed her baby after that and instead provide her toddler with any available food that can be afforded. In addition to this, Mrs. D and Mrs. N. said that their toddlers eat 2 meals per day and some snacks such as chips, candies and biscuits. The pattern of eating 2 meals or even 1 meal per day as revealed by Mrs. N (mother of malnutrition toddler) happens because the toddlers do not want to eat and the mother cannot force the child or he/she will cry. This eating pattern resulted in the low intake of water, fiber, kalium, linoleat acid, vitamin D, carbohydrate, zinc, and folat acid. PAry (2012) in his research showed that lack of knowledge is significantly related to cases of under-nutrition and malnutrition. Lack of knowledge also tends to indicate low educational level.

Mother's educational level is an important factor in child's development. Educational level affects ability to receive information specifically related to children's health and nutrition. High educational background of mother will ease the information giving and receiving process related to nutrition and child's health (Rahmawati, 2006). Data from Samiran Village revealed that most toddlers' mothers are primary school graduates. This influences the ability to optimally understand the information about nutritional intake for toddlers. Permana (2011) showed that education is related to toddlers' under nutrition status. Education level affects the number of malnutrition and under nutrition cases. More fundamentally, education is highly influential to social hierarchy that means

people with low education potentially positioned in low social level and otherwise. Educational level also affects the possibility of gaining particular occupation that later impacted on the income level.

Based on gender grouping, it is known that male toddlers experience more under nutrition (15 toddlers/11.7%) than female (8 toddlers/6.2%). Gender is one of indirect factor that influences toddler's nutrition status. According to Almatsier (2004), male toddlers need more energy and protein than female toddlers. Hence the higher possibility of male toddler to experience KEP when their need on energy and protein is not fulfilled.

The research result also shows that adequate nutrition is found in 0-12 months age group (31 toddlers/24.2%) while under nutrition cases are mostly found in 37-48 months (7 toddlers/5.4%).

2. Toddlers Nutrition Status Based on Height/Age Index

Data shows that out of 128 toddlers, there 65 toddlers (50.8%) with normal height, 50 (39%) short, 11 (8.6%) very short toddlers and 2 (1.6%) tall toddlers. This indicates that stunting cases are also occurred in Samiran Village and dominated by male toddlers (23.4% short and 5.5% very short). Gender determines the amount of energy needed by the body. Male toddlers are believed to be in need of more energy for they are considered move more actively than female. Adair & Guilkey (1997) stated that male toddler experience challenges in their first year of development while female development are challenged in their second years. Align with Thesome, *et al* (2009) who came out with the result that stunting prevalence in male toddler is 47.8%, higher than female ones, 37.8%. Research result shows that according to height/age index, normal toddlers found mostly in 0-12 month age group (19 toddlers/14.8%). However, short ones also come from the same group: 16 toddlers or 12.5% while 6 toddlers (4.7%) categorized as very short are in the age group of 25-36 months. Reviewing this data, it is apparent that stunting occurred mostly in 0-48 months of toddlers. A research conducted by Ramli, *et al* (2009) in Mollucas revealed that stunting prevalence of 12-60 months toddlers is 38.4% and prevalence of 0-11 months is 29%. The same research shows that stunting is experienced by more male toddlers significantly.

Information obtained from village midwife hinted that early marriages are related to stunting cases. Early marriages often results in low birth weight babies. Babies of mother with chronic energy deficiency cases are often born with low birth weight (Amatsier, 2001). A pregnant woman will give birth to a healthy baby if her own health and nutrition is adequate. Stunting toddlers are usually the result of chronic nutrition problem added by infectious diseases and environmental issues during pregnancy (Semba, *et al*. 2008).

Stunting is influenced by mothers' nutrition history such as KEK and AGB. Mothers' nutrition status prior to and during pregnancy certainly influences baby's development. Mother with proper nutrition intake before and during pregnancy is highly likely to give birth to a healthy baby with normal birth weight. In other words, the quality of a newborn baby is very dependant to mother's nutritional intake before and during pregnancy.

Stunting is a clinical nutrition indicator that provides a clear picture of socio-economic condition in the past and as a manifestation of advance consequence of high prevalence of low birth weight and under nutrition cases of toddlers and also the lack of catch-up growth in later life. One of POSYANDU officer claimed that stunting is also caused by both low family economic and educational level. In their research, Pongou, *et al* (2006) and Ramli *et al.*(2009) concluded that socio-economic factor of a family, including education, occupation and family income, is a risk-factor of children's stunting case. Gender difference is also another factor of stunting (Wamani, *et al.*, 2007).

Nutritional Status of Toddlers who did not attend the weighing in April 2015

From the interview with village midwife, it is cleared that there are 66 toddlers who are often absent from POSYANDU. Some of the reasons are the mother is working in the field so it is often too late to bring toddler to POSYANDU, toddler are being cared for by other member of family such as grandparents or siblings who forget about POSYANDU and also family occasions that happen at the same time as POSYANDU time. In line with this information, other health caders in the area also confirmed the reasons such as mother being late because of her work, toddlers being cared for other family members and also other engagement that needs to be attended to. Additional reason added is sometimes the toddler cried therefore mother take him/her home without weighing. As some mother said 'my baby cries a lot when weighed so I'd rather not take her', 'my baby is sound asleep so I decided not to take him to POSYANDU'. Another mother even said 'my baby does not gain weight at all so there is no point of me taking her.' Some other mothers claim the distance to POSYANDU (in Samiran hamlet) as a reason for not attending the activity. Interview and observation on mothers concluded several reasons for not attending POSYANDU: work, crying toddlers, losing their toddler's registry book and distance. However, participation in POSYANDU increases significantly on the time of vitamin, milk or additional food distribution.

Different result was presented by Sendang hamlet. Mothers in the hamlet were complaining mostly on the unfixed schedule of POSYANDU. Sudden announcement of POSYANDU time often clash with parents working time or even result in parents not knowing of the activity. This information was confirmed by the village midwife by stating that time for POSYANDU is adjusted to health caders' time availability therefore it is unfixed. Unfortunately, this resulted in parents' unwillingness to bring their toddlers to POSYANDU.

This research also explored on mother's side jobs that potentially affected toddlers' participation in POSYANDU. Data collection showed that most mothers are working to help with family income. They work as daily labor, brick maker, farmer, daily need seller, industrial labor and also housewives. They mostly spend approximately 8 or more working hours.

9 under nutrition and 2 malnutrition cases are found among the toddlers who did not participate in POSYANDU, April 2015. According to health cader, these conditions are caused by several factors such as premature birth and early

marriage. Parents of toddler M were married at 17 years old. Further, the problem in toddlers' food intake is also found. Toddler H, for example, only eats instant noodle everyday and his mother, Mrs. N., complies to his demand so that he can eat. Toddler H appears to be underweight, skinny with red hair.

CONCLUSION

1. Based on weight/age index, toddler nutrition status in Samiran Village, Kandangan Sub-district, Temanggung Regency 2015 are: 79.7% good nutrition, 18% under nutrition and 2.3% malnutrition.
2. Based on gender, 39.8% both male and female toddler are good nutrition while under nutrition cases are experienced more by male toddlers 11.7%, male malnutrition toddler 1.5% and female 0.8%.
3. Good nutrition are found mostly in 0-12 age group (24.2%) while under nutrition found in the age group of 37-48 months old (5.4%).
4. 50.8% toddlers are categorized in normal height, 39.0% are short, 8.6% are very short and 1.6% tall toddlers.
5. Stunting is dominated by male: 23.4% short and 5.5% very short toddlers.
6. Both normal height and short height toddlers are found in the age group of 0-12 months respectively 14.8% and 12.5%. 4.7% very short toddlers are in 25-36 months age group while 0.8% tall toddlers are found both in 0-12 months and 37-48 age group.
7. Based on data from January 2014 – March 2015 of 66 toddlers, their nutritional status according to weight/age index are: 57 toddlers with good nutrition, 9 under nutrition toddlers and 2 malnutrition toddlers.
8. Interviews revealed that affecting factors of toddler nutrition status are economy, mothers low education level, mothers' lack of knowledge, nutrition intake and parents occupation.
9. Stunting is affected by early marriage that gave births to babies with low birth weight.

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REFERENCES

- Adair, LS & Guilkey, DK. (1997). Age Spesific Determinat of Stunting In Filipino Children, Community and International Nutrition. *J. Nutrition* 127(2): 314-320
- Almatsier, S. (2004). *Prinsip Dasar Ilmu Gizi*. PT. Gramedia Pustaka Utama: Jakarta
- Bedford, H., Walton, S., & Ahn, J. (2006). *Method of Child Development: A Review*. UCL Institute of Child Health.
- Brown J.L.&Pollitt E. (1996). Malnutrition, Poverty and Intellectual Development. *Sci. Am.* 274(2): 38-42

- Departemen Gizi Dan Kesehatan Masyarakat Fakultas Kesehatan Masyarakat Universitas Indonesia. (2010). *Gizi Dan Kesehatan Masyarakat*. Jakarta: PT Raja Grafindo Persada.
- Dinas Kesehatan Kota Temanggung. (2013). *Analisis Situasi Pembangunan Manusia Kabupaten Temanggung 2014*.
- Kamiy, Y. (2011). Socioeconomic Determinants Of Nutritional Status Of Children In Lao PDR: Effects Of Household And Community Factors. *Journal of Health, Population And Nutrition* No. 29(4): 339-348.
- Kemenkes RI. (2010). *Keputusan Menteri Kesehatan Republik Indonesia No. 1995/Menkes/SK/XII/2010 tentang Standar Antropometri Penilaian Status Gizi Anak* Direktorat Jenderal Bina Gizi dan Kesehatan Ibu dan Anak, Direktorat Bina Gizi
- Kemenkes RI .(2010). *Riset Kesehatan Dasar 2010*. Badan Penelitian dan Pengembangan Kesehatan. Depkes RI. Hal.1-429
- Midyat, L., Aksit, S., Gokce, S., & Yagci, R.V. (2011). Nutritional Status Of Preschool (2-6 Years Of Age) Children From Families From Farious Socioeconomic Groups, In The City Of Izmir, Turkey. *Journal of Pediatric Sciences* 3(3): e84
- Patodo, S. (2012). Faktor – Faktor Yang Berhubungan Dengan Status Gizi Balita Di Wilayah Kerja Puskesmas Wawonasa Kota Manado.
- Dinas Kesehatan Provinsi Jawa Tengah.(2012). *Profil Kesehatan Dasar Provinsi Jawa Tengah*.Hal. 40
- Permana, W. E. (2011). Analisis Faktor-Faktor yang Mempengaruhi Status Gizi Kurang pada Balita di Wilayah Kerja Puskesmas Baturaden II. (Skripsi) Universitas Jenderal Soedirman, Purwokerto.
- Parry M. (2012) Strategies For Health Education In North American Immigrant Populations. *Journal International Nursing Review* 59, 482–488
- Proverawati, A., & Asfuah, S. (2009). *Buku Ajar Gizi Untuk Kebidanan*. Yogyakarta: Nuha Medika
- Proverawati, A. (2010). *Ilmu Gizi Untuk Keperawatan & Gizi Kesehatan*. Yogyakarta: Nuha Medika
- Pongou R, Ezzati M, Salomon JA.(2006). Household And Community Socioeconomic And Environmental Determinants Of Child Nutritional Status In Cameroon. *BMC Public Health* No. 6(98):1-19
- Sediaoetama. (2009). *Ilmu Gizi Untuk Mahasiswa dan Profesi*. Jakarta: Dian Rakjat
- Soekirman. (2000). *Ilmu Gizi dan Aplikasinya untuk Keluarga dan Masyarakat*. Jakarta: Direktorat Pendidikan Tinggi, Depdiknas.
- Semba R.D, Pee, S, Sun Kai, Sari, M, Akhter, N, & Bloem M.W. (2008). Effect Of Parental Formal Education On Risk Of Child Stunting In Indonesia And Bangladesh: A Cross-Sectional Study.
- Rahmawati, D. (2006). Status Gizi Dan Perkembangan Anak Di Taman Pendidikan Karakter Semai Benih Bangsa Sutera Alam, Desa Sukamantri, Kecamatan Tamansari, Bogor. Institut Pertanian Bogor, Bogor.
- Ramli, Kingsley EA, Inder KI, Bowe SJ, Jacobs J, & Dibley MJ. (2009). *Prevalens and Risk Factors For Stunting and Severe Stunting Among*

- Under Five in North Maluku Province of Indonesia*. NBMC Pediatric (internet). (available from: <http://www.ncbi.nlm.nih.gov>)
- Thesome *et al.* (2009). Magnitude And Determinas Of Stunting In Children Under Five Years Of Age In Food Surplus Region Of Ethiopia : The Case of West Gojam Zone Ethiopian. *Ethiop J Health Dev*, 98-106
- Wamani, H., Astrom, A.N., Peterson, S., Tumwine, K.J., Tylleskar, T. (2007). Boys Are More Stunted Than Girls In Sub-Saharan Africa: A Meta Analysis Of 16 Demographic And Health Surveys. *BMC Pediatrics* 7(17): 1471-2431

RELATION BETWEEN FAMILY SUPPORT AND LONELINESS LEVEL OF THE ELDERLY IN NURSING HOME OF CHRISTIAN SERVICE IN PENGAYOMAN SEMARANG

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ABSTRACT

Background: Loneliness is a psychological problem which mostly happens in the elderly, in which they feel disconnected, marginalized, and isolated from others. This occurs as the elderly feel that they are different from others. The feeling of loneliness often occurs at the time when the elderly's spouse or close friends left them. It is also due to the lack of family support. A period of elderly can cause different levels of loneliness, and can occur because of the lack of family support which includes informational, appraisal, instrumental and emotional supports. The better family supports given to the elderly will cause them better feeling of being more noticed by the family. Therefore, the feeling of loneliness can be minimized. Interviews in the preliminary study showed that 4 out of 5 elderly stated that they often felt left out, lonely, and unnoticed by others. About 60% of them also said that they received very less support from their families.

Objective: The general objective of this study is to identify if there is a correlation of the family support and the level of loneliness in elderly at the Pengayoman Christian Home care service of Semarang. The specific objective is first to determine the characteristics of the elderly; such as age, recent education, and sex at the Pengayoman Christian Home care service of Semarang; Second, to figure out the description of family support for the elderly at the Pengayoman Christian Home care service of Semarang; and Third, to figure out the level of loneliness in the elderly at the Pengayoman Christian Home care service of Semarang.

Method: This study is an analytical survey (non-experimental) with cross sectional approach. The data were collected by questionnaires from 52 respondents taken by simple purposive sampling. The data obtained were statistically analyzed using chi-square formula.

Result and discussion: The results of analysis showed that out of 52 respondents, most of them were of old age (67.3%), female (88.5%), and obtained education of elementary school (55.8%). The study also showed that 67.3% of respondents did not have support from their families, while the remaining (32.7%) had their family support. A total of 30.8% respondents did not feel any loneliness, 30.8% felt mild loneliness, 19.2% felt moderate loneliness, and 19.2% felt severe loneliness.

Conclusion: There was a significant relationship between family support and the level of loneliness in the elderly (p value <0.05).

Keywords: family support, level of loneliness, elderly.

BACKGROUND

To become old (elderly) is a process that cannot be avoided (unavoidable). In elderly, the role of nursing is indispensable to maintain the health of the elderly at the highest level in order to avoid the coming of diseases or disorders so that they can meet the needs of the self. (Mubarak, Rantoso, Rozikin, & Patonah, 2006).

Currently, the number of elderly is growing up rapidly. In general, the population with 60 years old of age and over in developed countries in 2011 was 20% of the total population and predicted to increase to 32% in 2050. Meanwhile, in developing countries, the population with 60 years old of age and older in 2011 was 15% of the total population and predicted to be 20% from 2015 to 2050 (Ministry of Health, 2011). The number of elderly in Indonesia was 7.4% in 2000 and predicted to increase 11.4% in 2020. In the year of 2011, it increased to 9.77%, and predicted to be 11.34% in 2020 (Sanusi, 2006). In Central Java province, the number of people aged over 60 years is 3,131,514 inhabitants (Central Bureau of Statistics, 2014). In Semarang, the number of elderly people in 2013 is 765,240 people, consisting of 370,645 men and 394,595 women. (Central Bureau of Statistics of Semarang, 2013).

World Health Organization (WHO) set 65 years as the age that shows the aging process that takes place in a real and someone, at that age, will be called as elderly (WHO, 2010). Law No. 13 of 1998 on the welfare of the elderly CHAPTER 1 Article 1, paragraph 2 states that: "Elderly is a person who reaches the age of 60 (sixty) years and above" (Papalia, 2008).

In conclusion, someone can be said as elderly if he or she is aged 60 years old and older. Along with age, the elderly will experience degenerative process in terms of both physical and mental. According to Fitri (2011), the declining health status and physical abilities of elderly will result in the decrease of the relationship of the elderly with their surrounding communities, so that social interaction is decreased. Social interaction is the need of every human being until the end of life, including the elderly. Individuals will experience loneliness when they do not have the opponent (partners) to share the problems of interaction (Armida, 2010).

Loneliness is a state of mental and emotional feeling which are mainly characterized by the feelings of isolation and the lack of meaningful relationships with others (Brono, 2000). Loneliness is a psychological problem most common in the elderly, feeling disconnected (isolated), marginalized, secluded from the others because of feeling different from others (Probosuseno, 2007).

According to Nowan (2008) loneliness is a feeling that arises due to the urgent need for the presence of others, to communicate, to have an intimate relationship with another person, or the need for support, acceptance, and appreciation of other people's existence itself. Loneliness experienced by the elderly often occurs at the moment when someone is left by spouse or a close friend and a lack of family support.

The study by Louise Hawkey and John Cacioppo, psychologist of the University of Chicago United States, have shown that lonely people may be quiet and could not be marked early on, but it will grow over time. Many philosophies reveal that loneliness is a natural thing and an unavoidable fact of human

existence, among children, adolescents, adults or the elderly. Nonetheless, the loneliness of the elderly is very interesting; those two psychologists reveal that loneliness in the elderly will have an impact on the complex physical health (Herbert, 2007).

Friedman (2003) argues that family is the closest aspect related to elderly. The family is the primary support system for the elderly in maintaining their health. One effort that families can and easy to do is to provide support. Support can mean help or motivation received by someone from others. Support is usually received from the closest social environment such as the family members, parents and friends (Marliyah, 2004).

OBJECTIVE

The general objective of this study is to identify if there is a correlation of the family support and the level of loneliness in elderly at the Pengayoman Christian Home care service of Semarang.

The specific objective is first to determine the characteristics of the elderly; such as age, recent education, and sex at the Pengayoman Christian Home care service of Semarang; **Second**, to figure out the description of family support for the elderly at the Pengayoman Christian Home care service of Semarang; and **Third**, to figure out the level of loneliness in the elderly at the Pengayoman Christian Home care service of Semarang.

METHOD

The type of the study is the analytical survey; that is a study that tries to explore how and why this phenomenon occurs. Then, the dynamic correlation analysis is done between phenomena or the risk factor and the effect of factors that aims to determine the correlation of family support and the level of loneliness in the elderly. Moreover, the study design used is *cross sectional* approach; it is a study which examines the correlation of risk factors (dependent) and effect factor (independent). In this approach, the researcher conducts observations or measure related to variables at the same or at one time. This study correlates the independent variable (family support) and the dependent one (the level of loneliness in the elderly).

RESULTS

Data Analysis

1. Univariate Analysis

a. Family support

The frequency distribution table of respondents based on the family support of the respondents that is elderly living at the Pengayoman Christian Home care service of Semarang in March 2015 (n = 52)

| Family support | F | % |
|----------------|-----------|--------------|
| Supported | 17 | 32.7 |
| Not Supported | 35 | 67.3 |
| Total | 52 | 100.0 |

Based on the table above, the number of elderly without support is 35 (67.3%) whereas the elderly with support is 17 (32.7%).

b. The level of loneliness

The frequency distribution table of respondents based on their level of loneliness in elderly at the Pengayoman Christian Home care service of Semarang in March 2015 (n = 52)

| The level of loneliness | F | % |
|-------------------------|-----------|--------------|
| not Loneliness | 16 | 30.8 |
| low loneliness | 16 | 30.8 |
| Average loneliness | 10 | 19.2 |
| High loneliness | 10 | 19.2 |
| Total | 52 | 100.0 |

Based on the table above, the number of elderly loneliness in the low level is 16 (30.8%), whereas those are not lonely are 16 (30.8%). The elderly with average loneliness level is 10 (19.2) elderly and with the high level is 10 (19.2) elderly.

2. Bivariate analysis

Table of the Distribution of the correlation of family support and the level of loneliness in the elderly at the Pengayoman Christian Home care service of Semarang (n = 52)

| Family support | The level of loneliness | | | | | | | | | | P value |
|------------------|-------------------------|------|-----------|------|---------|------|------------|------|-------|------|---------|
| | Not lonely | | Low level | | Average | | High level | | Total | | |
| | F | % | F | % | F | % | f | % | f | % | |
| There is support | 9 | 17.3 | 7 | 13.5 | 1 | 1.9 | - | - | 17 | 32.7 | 0007 |
| No support | 7 | 13.5 | 9 | 17.3 | 9 | 17.3 | 10 | 19.2 | 35 | 67.3 | |
| Total | 16 | 30.8 | 16 | 30.8 | 10 | 19.2 | 10 | 19.2 | 52 | 100 | |

Based on the above table, it is known that from 35 elderly who have no family support, 10 (19.2%) of them are with high loneliness level, whereas 9 (17.3%) of them are with the low level of loneliness, and 9 (17.3%) are with average levels of loneliness, and only 7 (13.5%) of them are with no loneliness. In the elderly with family support with the number 17 elderly, 9 (17.3%) of them are with no loneliness, while 7 (13.5%) of them are with low levels of loneliness, 1 (1.3%) of them is with average levels of loneliness, and 0 (0%) of them is with high loneliness.

The above table shows that there is one cell with the expectation value of less than 1. Therefore, this indicates that the results do not meet the *chi-square* test.

Based on the results of the data analysis with chi square, it is found that there is a cell with the expectation value of less than 1. According to Hastanto

(2007), *chi-square* test requires the frequency of expectations in each cell should not be too small, there should be no cell has a value of E of less than 1. This limitation occurs in chi-square test, the researcher must combine the categories in order to enlarge the expected frequency of this cell, so that the results of *chi-square* analysis in this study will be a merged category. Furthermore, categorization is done by combining the column of the high level of loneliness because there is the expectation value of <1 , so that it is combined with the column of average level category. The test results on the variables that have been combined can be seen in the table below.

Table of the Distribution of respondents based on the correlation of family support and the level of loneliness in the elderly at the Pengayoman Christian Home care service of Semarang (n = 52)

| Family support | The level of loneliness | | | | | | | | P value |
|----------------|-------------------------|------|-----------------------|------|---------------|------|-------|------|---------|
| | Not Loneliness | | Low + High Loneliness | | Medium + High | | Total | | |
| | F | % | F | % | F | % | F | % | |
| There Support | 9 | 17.3 | 7 | 13.5 | 1 | 1.9 | 17 | 32.7 | 0.003 |
| No support | 7 | 13.5 | 9 | 17.3 | 19 | 36.5 | 35 | 67.3 | |
| Total | 16 | 30.8 | 16 | 30.8 | 20 | 38.5 | 52 | 100 | |

Based on the above table, it is known that from the 35 elderly who have no family support, there are 19 (36.5%) of elderly with average + high levels of loneliness, 9 (17.3%) of them are with the low levels of loneliness, and 7 (13.5%) of them are with no loneliness. In the elderly with family support of 17 elderly, 9 (17.3%) of them are with no loneliness, 7 (13.5%) of them are with low levels of loneliness, and 1 (1.9%) of them is with average + high levels of loneliness.

The analysis used is *chi-square*; the statistical test results obtain p value of 0.003 with significance level of 0.05. This means that the p value is smaller than the significance level ($p < 0.05$), and thus H_0 is not supported and H_a is supported. It means there is a correlation of family support and the level of loneliness in the elderly at the Pengayoman Christian Home care service of Semarang.

DISCUSSION

Based on the findings, the number of elderly without family support is 35 (67.3%) and with support are 17 (32.7%).

Based on the findings, the number of elderly with low loneliness level is 16 (30.8%), no loneliness is 16 (30.8%), average loneliness is only 10 (19.2%) and those with high level of loneliness are 10 (19.2%).

The correlation of Family Support and the Level of loneliness In Elderly at the Pengayoman Christian Home care service of Semarang

Based on the results of data analysis by *chi square* conducted by researcher, it is found that there is a correlation with the level of significance of 0.05 with *p value* of 0.003 if compared to P table value of 0.05. therefore, it means that there is a correlation of family support and the level of loneliness in elderly at the Pengayoman Christian Home care service of Semarang.

This study is in line with the previous study conducted by Ikasi, Jumaini, and Hasanah entitled "The correlation of Family Support and Loneliness In the elderly" with 75 respondents in Limbungan Village, Pekan Baru Riau. The study concludes that the results of data analysis by using Chi Square show the results of *p value* of 0.001 which means that *p value* is <0.05 . It means that there is a correlation of family support and the level of loneliness in the elderly.

The finding of this study is also supported by the study by Marini and Hayati by the title "the influence of social support toward loneliness in the elderly of habibi and Habibah elderly community" with the main results of the study by using simple linear regression analysis of ($R = -0.371$, $p = 0.004$). It shows that there is significant influence of social support and loneliness in the elderly and there is a negative correlation of social support and loneliness in the elderly. From these findings, the hypothesis which states that there is influence of social support toward loneliness in the elderly is supported. It means that the higher the family social support obtained by the elderly is, the lower the loneliness will be. Conversely, the lower the social support obtained is, the higher the loneliness will be.

Family support is very helpful in reducing the loneliness experienced by elderly. This study is supported by Anwar (2013) which states that the support can be obtained from anyone, but the meaningful support in a person's life, especially the elderly in relation to the problem of loneliness, is the support that comes from those who have emotional closeness like family members and close relatives. This is also supported by fessman and lester (2000) who explain that the family for social support is a predictor of the emergence of loneliness. The point is that people who receive limited social support of families are more likely to experience loneliness, while the elderly who obtain enough social support of family will not feel lonely.

Social support may come from various parties, but a very significant social support in relation to the problem of loneliness is the support that comes from those who have emotional closeness, such as family members and close relatives (Gunarsa 2004).

CONCLUSION

Based on the findings and discussion conducted at the center of Pengayoman Christian Home Care Service on February 20, 2015, it can be concluded as follows:

1. Elderly with age at most in this study are elderly with 75-90 years of age (senior elderly) of 35 (67.3%), while the elderly with sex at most is the female elderly of 46 (88.5%) and elderly with the most education are elderly with elementary education that is equal to 29 (55.8%).

2. The elderly who do not have family support is 35 (67.3%) and those who have family support are 17 (32.7%)
3. Elderly with no loneliness is 16 (30.8%), elderly with low levels of loneliness is 16 (30.8%), elderly with average loneliness levels is 10 (19.2%) and the elderly with high loneliness levels is 10 (19.2%).
4. There is a significant correlation of family support and the level of loneliness in the elderly at the Pengayoman Christian Home care service of Semarang, the finding obtains *p value* of 0.003 which means that there is a correlation of family support and the level of loneliness in the elderly.

REFERENCES

- Azizah, L. M. 2011. *Keperawatan Lanjut Usia*. Yogyakarta: Graha Ilmu.
- Annida. (2010). *Memahami kesepian*. Retrieved November 11, 2013 <http://repository.usu.ac.id>
- Achjar, K. A. H., 2010, *Aplikasi Praktis Asuhan Keperawatan Keluarga*, Jakarta: Sagung Seto.
- American psychological Association (2003). Stres and anxiety. www.aarp.org/Healthy/stress/a2003-03-11-takingtime.html
- A, Cheryl dan K. Parello. 2008. Loneliness in the School Setting, Volume 24. *The Journal of School Nursing* 2008. 24/2. 66 - 70.
- Asih *et al.*, (Eds.). 1998. *Keperawatan Keluarga: Teori dan Praktik*. Third edition. Jakarta: EGC.
- Brehm, S. Et all (2002). *Intimate Relationship*. New York. Mc. Grow Hill.
- Baron, R. A & Bryne, D. (2005). *Psikologi sosial*. Jilid II. Tenth Edition. Jakarta : PT. Erlangga.
- Bruno, F. J. (2000). *Conguer Loneliness, Menaklukkan kesepian*. Jakarta : PT. Gramedia Pustaka Utama
- Biro Pusat Statistik 2014, *Data Statistik Indonesia tahun 2013* Retrieved on March 30, 2013 dari <[Http://data statistik indonesia.com/portal/index.php?option=com_supas&task=&Itemid=972](http://data.statistik.indonesia.com/portal/index.php?option=com_supas&task=&Itemid=972)>
- Fitri, A. (2011). *Interaksi sosial dan kualitas hidup lansia*. Medan: USU medan.
- Friedman, M. (2003). *Family nursing: Research, theory, and practice ed. 5*. USA: Person Education.
- Fredman, M.M, Bowden, O dan Jones, M. (2010). *Buku ajar keperawatan keluarga: riset, tesri, & praktek*, ahli bahasa, Achir Yani S. Hamid ...[et all]; editor edition with bahasa Indonesia, estu Tiar, 5th Edition. Jakarta: EGC
- Gunarsa, S. D (2004). *Dari Anak samapai usia lanjut : bunga rampai psikolog anak*. BPK Gunung mulia. <http://boks.google.co.id/Boks?id=GUAGhG74nH4C&pg=PA417&dq=kesepian+lansia#PPA409,MI> Retrieved on March 3, 2009.
- Hanum, F. (2008). *Menuju hari tua bahagia*. Yogyakarta : UNYPress
- Herbert, W. (2007). *Lonelinnes is injurious to health, especially in old age*. Retrieved on October 30, 2013 dari <http://www.psychologicalscience.org>.

- Hurlock, E. B. (2006). *Psikologi Perkembangan: Suatu Pendekatan Sepanjang Rentang Kehidupan*. Jakarta: Erlangga.
- Hidayat, A. A. (2009). *Metode penelitian keperawatan dan teknik analisa data*. Jakarta: Salemba Medika.
- Istiqomah, A. (2010). *Hubungan Dukungan Sosial Keluarga Dengan Perilaku Ibu Mengimunitasika Campak Pada Bayi Usia 9 Bulan di Desa Kaliwates Kecamatan Kaliwates Kabupaten Jember Tahun 2011*. Unpublished
- Hasymi, Y. (2009). *Pengaruh Dukungan Sosial Keluarga dan Intimasi Terhadap Tingkat Nyeri Pada Pasien Miokard Infark di RSUD Yunus Bengkulu*. Thesis. Unpublished. Depok: Magister of Nursing Science on Medical Surgery, Post Graduate Program, Faculty of Nursing Science, Indonesia University.
- Kuncoro. (2002). *Dukungan sosial pada lansia*.
- Kusharyadi. (2010). *Asuhan keperawatan pada klien lanjut usia*. Jakarta: Salemba Medika.
- Kemenkes RI. (2011). *Sistem kesehatan nasional*. Retrieved on October 23, 2013 www.pdgi.or.id
- Lueckenotte, A.G. (2000). *Gerontologic snursing*. St-Louis : Mosby-Year Book Inc.
- Latifa, R. 2008. *Jenis dan Dinamika Terjadinya Loneliness Pada Masyarakat Modern*. <http://tentangpsychology.blogspot.com> (July, 31, 2008)
- Mubarak, W. I., 2006, *Ilmu Keperawatan Komunitas 2*, Jakarta: Sagung Seto.
- Marliyah, L. (2004). *Journal provitae*. Faculty Of Psychology, Tarumanagara University: Jakarta
- Maryam, S. R, dkk. (2008). *Mengenal usia lanjut dan penangannya*. Jakarta: Salemba Medika.
- Mubarak, Santoso, Rozikin & Patonah. (2006). *Ilmu keperawatan komunitas2*. Jakarta : SagungSeto.
- Mishra. A. J. (2004), Januari-juli. *A study of lonelinessin an Old Age Home in India : A Case of Kanfur*. India Jurnal Gerontology, Vol 17, no 1 & 2. (online) (<http://www.geocitise.com/husociology/aldage4.htm>., Retrieved September 10, 2013
- Nowan. (2008). *Jomblo asyik gila*. Jakarta : PT Gramedia.
- Nugroho, W. (2006). *Komunikasi dalam keperawatan gerontik*. Jakarata: Penerbit Buku Kedokteran EGC.
- Nugroho, W. (2008). *Keperawatan gerontik dan geriatrik*. Jakarta: EGC.
- Notoatmodjo, S. (2007). *Promosi kesehatan dan ilmu perilaku*. Jakarta: Rineka Cipta.
- Notoatmodjo, S. 2010. *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- Nursalam. (2011). *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan : Pedoman Skripsi, Tesis, dan Instrumen Penelitian Keperawatan*. 2nd Ed., Jakarta : Salemba Medika.
- Probosuseno. (2007). *Mengatasi Isolation pada Lanjut Usia*. Retrieved on October 13, 2013. <http://www.republika.co.id>

- Okumagba, P.O. (2011). *Family support for the elderly in Delta State of Nigeria: Departement of Sociology and Psychology*, Delta State University. From www.krepublisher.com/02-journals/S-HCS/HCS-05-0-000-11
- Papalia. (2008). *Psikologi perkembangan*. Terjemahan. Jakarta: Kencana Prenada Media Group.
- Purnama, F.T. (2013). *Hubungan antara dukungan keluarga dengan succesful aging pada lansia di desa windunegara, kecamatan wangon, kabupaten banyumas*. Purwokerto: Faculty of Nursing Science, Faculty of Medical and Health, Jenderal Soedirman University, Retrieved from <http://www.repository.unsoed.ac.id/skripsi/pdf>
- Reinhard, S.C., Danso, A.B., & Kathleen, K. (2007). *State of the science: professional partners supporting family caregiving*. From www.nursingcenter.com/inc/static?pageid=809507#contents
- Sugiyono. 2010. *Statistika Untuk Penelitian*. Jakarta: Alfabeta.
- Sarwono. (2003). *Psikologi remaja*. Jakarta: PT. Raja Gravido Persada.
- Setiadi. (2008). *Konsep & Proses Keperawatan Keluarga*. Yogyakarta : Graha Ilmu
- Setiati, S, dkk. (2009). *Proses menua dan implikasi kliniknya*. Jakarta: Internal Publishing.
- Setyowati, S dan Murwani, A. (2008). *Asuhan keperawatan keluarga konsep dan aplikasi kasus*. Jogjakarta: Mitra Cendekia.
- Santrock , J. W (2003). *Adolescence, Perkembangan Remaja* (Alih Bahasa : Shinto B. Adelar & Sherly Saragih. Jakarta : Penerbit Erlangga
- Sanusi. (2006). *Gambaran kesehatan usia lanjut*. Retrieved on October 29, 2013 www.depkes.go.id
- Savikko, N. (2008). Loneliness of older people and elements of an intervention for its alleviation. *Nursing Science*, 1-81
- Saryono, (2011). *Metodologi penelitian kesehatan: penuntun praktis bagi pemula*. Yogyakarta: Mitra Cendikia Press.
- Suardiman, S. P. 2011. *Psikologi Usia Lanjut*. Yogyakarta: Gadjah Mada University Press.
- Stuart, Gail. W. 2006, *Buku Saku Keperawatan Jiwa*, 5th Edition. Penerbit : Buku Kedokteran EGC ; Jakarta
- Sarafino, E. F. (2006) *Health psylogiy Biopsychosocial Interaction*. 5 edition. United States of America : John Wiley & Sons.
- Tomaka, J., Thompson, S., & Palacios, R, (2006). The Relation of Social Isolation, Loneliness, and social support to the desease outcomes among the elderly. *Journal of Aging and Health*, 18(3) 359-384.
- Weiten, W. & Lloyd, M (2006) *Psychology Applied to Modern Life : Atjusement in the 21 st century. Eighth Edition* . Canada: Thomson wadsworth

SLEEP QUALITY AMONG ELDERLY IN NURSING HOME AND COMMUNITY-DWELLING: A COMPARATIVE STUDY

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ABSTRACT

Background: Changes occur along with advancing age, including needs and patterns of sleep. Sleep becomes an important basic needs related to well being in the elderly. Sleep satisfaction marked by good sleep quality.

Objective: The purpose of this study was compare elderly sleep quality in institutional and community dwelling.

Methods: Study conducted in Harapan Asri Nursing Home and RW V Kelurahan Pedalangan Semarang from 5 till 17 May 2014. A total of 110 elderly in nursing home (n=37) and community dwelling (n=73) capable of participating in data collection and free from cognitive deficits or functional impairment were found. The Indonesian version of Pittsburgh Sleep Quality Index (PSQI) was used to measure sleep quality. Poor sleep quality defined by global PSQI score above 5. Descriptive statistics and Mann-Whitney test were used for data analysis.

Results: Most participants in nursing home were poor sleeper (81.1%), while less than a half of participants in community were poor sleeper (45.2%). This study found there are differences elderly sleep quality in nursing home and elderly who living with families in community. (Sig= 0.001, p value < 0.05)

Conclusion: This study showed good sleep quality in elderly living with family in community higher than in nursing home. The nurse may able to give an intervention and collaborate with family or other social support to improve sleep quality in elderly.

Keyword: sleep quality, nursing home, community.

BACKGROUND

Population aging becomes phenomenon which occurs across the world, even developing country like Indonesia. Indonesian population above 60 years old in 2012 was 18.55 million people and being projected over 28.8 million (11.34%) in 2020. (BPS, 2012). Elderly defined as someone aged 60 years old and over (UU Kesejahteraan Lanjut Usia, 1998).

Elderly to be altered by the aging process, one of changes is the circadian rhythm (Stanley & Beare, 2007). Decrease bedtime and increase naptime as a result of changes in the circadian rhythm. Elderly became longer in sleepy stage, difficult to fall asleep, more convenient and frequent waking during night sleep (Leuckenotte, 2006). Along physiological aging, time of NREM stages I and II increase, but time stages III and IV reduced. Even many elderly does not experience NREM IV. REM sleep stage also disrupted due to wake up frequently (Miller, 2004).

The prevalence of sleep disorders in the elderly is 67% (Anggrasari, 2013). Sleep disturbances become one of the major problems for elderly or commonly called geriatric giants (Kane et al, 2008). This is because sleep is an activity to restore the body to function optimally so that the elderly can enjoy a good quality of life. Sleep becomes a basic requirement that acts as one of the main pillars to improve the health and well-being (Stanley & Beare, 2007).

The majority of the elderly population in Indonesia live in the community, while others live in residential institutional (Witoelar, 2012) The phenomenon of living arrangement in elderly would affect the lives of the elderly both in terms of biological, physical, psychological, and social (Martono, 2009). Previous research has shown the existence of different stressors on the elderly living in nursing homes and other household (Rosita, 2012). Also there are differences of depression level in elderly who living in nursing homes and community (Wulandari, 2011). Psychological conditions such as depression and anxiety in the elderly will affect the sleep quality (Sustyani & Indriati, 2013; Wiyono & Widodo, 2010). The definition of sleep quality its self has been unclear. The results of a preliminary study obtained 2 of 10 elderly in communities expressed difficulty to falling asleep, frequent night's sleep disturbed, and fatigue in the morning. While 8 of 20 elderly people in the nursing home expressed night's sleep isn't well enough.

However, previous study have not investigated differences of sleep quality between institutional and community dwelling elderly. Therefore the aim of this study was to compare sleep quality between institutional and community dwelling elderly.

METHODS

Design

This comparative descriptive study using a quantitative approach, employed total and purposive sampling technique.

Participants and procedure

The inclusion criteria were the participant to be 1) registered as resident of Harapan Asri Nursing Home or live with extended family in RW V Kelurahan Pedalangan, Banyumanik, Semarang 2) able to do verbal communication and 3) aged ≥ 60 years old. The exclusion criteria were the participant has 1) physical and psychological impairment, 2) severe cognitive disorder identified by SPMSQ, and 3) die during study. A total of 37 elderly in nursing home and 73 elderly who living with their family in community eligible and agreed to participate in this

study. Door to door interview for data collection was performed by researcher from 05 till 17 May 2014.

Measurement

A validated Indonesian version of PSQI was used to measure sleep quality in this study. Both original and Indonesian version of PSQI had good reliability showed by Cronbach Alpha 0.83 and 0.753 (Buysse, 1988; Safitrie & Ardani, 2013). It is consist of 7 sleep quality components including subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbance, use of sleep medication, and daytime dysfunction. Each of them scored from 0 to 3, so PSQI global score ranging between 0 until 21 as a sum of its components. Based on instrument developer's recommendation, score 5 used as cut point, more than 5 indicating poor sleep quality (Buysse, 1988)

Statistical Analysis

Descriptive statistics was used to figure the sleep quality. Normality test (Saphiro-wilk and Kolmogorov-Smirnov test) used to examine data distribution. After normality test, obtained both of group hadn't normal data distribution. Mann-Whitney test were used to compare the variable between two groups. The significant level for statistical test was 5% (0.05).

RESULTS

Table 1. Frequency distribution of responden based on elderly's sleep quality in nursing home and community May 2014 (n=110)

| Kategori | Nursing home f (%) | Community f (%) |
|----------|--------------------|-----------------|
| Good | 7(18.9) | 40(54.8) |
| Poor | 30(81.1) | 33(45.2) |
| Total | 37(100) | 73(100) |

Descriptive statistic of sleep quality in both groups are presented in table 1. Predominantly participants in nursing home had poor sleep quality with percentage of 81.1%, while the elderly who live with families in more communities have good sleep quality with the percentage of 54.8%.

Table 2. Frequency distribution of responden based on elderly's sleep quality components in nursing home and community May 2014 (n=110)

| Component | Nursing home f(%) | Community f(%) |
|-----------------------------|-------------------|------------------|
| 1. Subjective sleep quality | | |
| Very good | 7 (18.9) | 28 (38.4) |
| Fairly good | 20 (54.1) | 34 (46.6) |
| Fairly bad | 10 (27.0) | 9 (12.3) |
| Very bad | 0(0) (0%) | 2 (2.7) |

| Component | Nursing home f(%) | Community f(%) |
|------------------------|-------------------|------------------|
| 2. Sleep latency | | |
| ≤ 15 min | 7 (18.9) | 21 (28.8) |
| 16-30 min | 5 (13.5) | 26 (35.6) |
| 31-60 min | 10 (27.0) | 18 (24.7) |
| > 60 min | 15 (40.5) | 8 (11.0) |
| 3. Sleep duration | | |
| > 7 hours | 5 (13.5) | 11 (15.1) |
| 6-7 hours | 4 (10.8) | 18 (24.7) |
| 5-6 hours | 11 (29.7) | 16 (21.9) |
| < 5 hours | 17 (45.9) | 28 (38.4) |
| 4. Sleep efficiency | | |
| > 85% | 9 (24.3) | 41 (56.2) |
| 75-84% | 5 (13.5) | 15 (20.5) |
| 65-74% | 6 (16.2) | 8 (11.0) |
| < 65% | 17 (45.9) | 9 (12.3) |
| 5. Sleep disturbance | | |
| Not during past month | 2 (5.4) | 1 (1.4) |
| ≤ 1 a week | 28 (75.7) | 59 (80.8) |
| 1-2 times a week | 7 (18.9) | 11 (15.1) |
| ≥ 3 times a week | 0 (0) | 2 (2.7) |
| 6. Sleep medication | | |
| Not during past month | 32 (86.5) | 60 (82.2) |
| ≤ 1 a week | 2 (5.4) | 9 (12.3) |
| 1-2 times a week | 0 (0) | 4 (5.5) |
| ≥ 3 times a week | 3 (8.1) | 0 (0) |
| 7. Daytime dysfunction | | |
| Not during past month | 24 (64.9) | 43 (58.9) |
| ≤ 1 a week | 5 (13.5) | 25 (34.2) |
| 1-2 times a week | 7 (18.9) | 4 (5.5) |
| ≥ 3 times a week | 1 (2.7) | 1 (1.4) |

Table 2 shows that a total of 17 respondents (45.9%) living in nursing home have less than 65% of sleep efficiency, while 41 respondents (56.2%) living in the community had more than 85% sleep efficiency. Differences also showed by sleep latency component where 40.5% of respondents in the homeless elderly take more than 60 minutes to fall asleep, while 35.6% of respondents who live with families in the community takes between 16-30 minutes. The majority of the elderly in the house elderly and elderly who live with families in the community showed good subjective sleep quality, sleep duration less than 5 hours, sleep disturbances once a week, never use sleeping pills and never experienced dysfunction during the day.

Table 3. Frequency distribution of responden based on elderly's sleep disturbance in nursing home and community May 2014 (n=110)

| Sleep Disturbance | Nursing home f(%) | Community f(%) |
|--|--------------------------|-----------------------|
| 1. Cannot get to sleep within 30 min | | |
| Not during past month | 9 (24.3) | 30 (41.1) |
| ≤ 1 a week | 0 (0) | 17 (23.3) |
| 1-2 times a week | 6 (16.2) | 11 (15.1) |
| ≥ 3 times a week | 22 (59.5) | 15 (20.5) |
| 2. Wake up middle of the night/early morning | | |
| Not during past month | 10 (27.0) | 13 (17.8) |
| ≤ 1 a week | 1 (2.7) | 14 (19.2) |
| 1-2 times a week | 4 (10.8) | 19 (26.0) |
| ≥ 3 times a week | 22 (59.5) | 27 (37.0) |
| 3. Get up to use bathroom | | |
| Not during past month | 9 (24.3) | 13 (17.8) |
| ≤ 1 a week | 2 (5.4) | 14 (19.2) |
| 1-2 times a week | 0 (0) | 13 (17.8) |
| ≥ 3 times a week | 26 (70.3) | 33 (45.2) |
| 4. Cannot breathe comfortably | | |
| Not during past month | 31 (83.8) | 61 (83.6) |
| ≤ 1 a week | 3 (8.1) | 5 (6.8) |
| 1-2 times a week | 3 (8.1) | 5 (6.8) |
| ≥ 3 times a week | 0 (0) | 2 (2.7) |
| 5. Cough or snore loudly | | |
| Not during past month | 26 (70.3) | 45 (61.6) |
| ≤ 1 a week | 3 (8.1) | 10 (13.7) |
| 1-2 times a week | 5 (13.5) | 10 (13.7) |
| ≥ 3 times a week | 3 (8.1) | 8 (11.0) |
| 6. Feel to cold | | |
| Not during past month | 33 (89.2) | 56 (76.7) |
| ≤ 1 a week | 3 (8.1) | 13 (17.8) |
| 1-2 times a week | 0 (0) | 3 (4.1) |
| ≥ 3 times a week | 1 (2.7) | 1 (1.4) |
| 7. Feel to hot | | |
| Not during past month | 30 (81.1) | 47 (64.4) |
| ≤ 1 a week | 3 (8.1) | 11 (15.1) |
| 1-2 times a week | 2 (5.4) | 3 (4.1) |

| Sleep Disturbance | Nursing home f(%) | Community f(%) |
|-----------------------|-------------------|----------------|
| ≥ 3 times a week | 2 (5.4) | 12 (16.4) |
| 8. Had bad dream | | |
| Not during past month | 27 (73.0) | 55 (75.3) |
| ≤ 1 a week | 8 (21.6) | 14 (18.2) |
| 1-2 times a week | 1 (2.7) | 1 (1.4) |
| ≥ 3 times a week | 1 (2.7) | 3 (4.1) |
| 9. Have pain | | |
| Not during past month | 33 (89.2) | 39 (53.4) |
| ≤ 1 a week | 0 (0) | 20 (27.4) |
| 1-2 times a week | 2 (5.4) | 6 (8.2) |
| ≥ 3 times a week | 2 (5.4) | 8 (11.0) |
| 10. Other reason | | |
| Not during past month | 29 (78.4) | 69 (94.5) |
| ≤ 1 a week | 2 (5.4) | 2 (2.1) |
| 1-2 times a week | 1 (2.7) | 1 (1.4) |
| ≥ 3 times a week | 5 (13.5) | 1 (1.4) |

Table 3 shows that dominantly sleep disturbance which experienced by elderly in Harapan Asri Nursing Home is awakened to use the bathroom. As much as 26 respondents (70.3%) had more than 3 times a week and 2 respondents (5.4%) experience once a week. A total of 22 respondents (59.5%) of respondents experienced difficulty sleeping disorders such as sleep despite lying more than 30 minutes and wake up in the night or too early with a frequency of more than 3 times a week.

Table 3 shows that sleep disturbance which experienced by majority elderly who live with families in the community is woke up to go to the bathroom and woke up in the middle of the night or too early in the morning. A total of 33 respondents (45.2%) woke up to go to the bathroom and 27 respondents (37.0%) with a frequency of more than 3 times a week. Sleep disorders such as trouble sleeping despite lying more than 30 minutes experienced by 43 respondents with a frequency of once a week (23.3%), more than 3 times a week (20.5%), and 2 times a week (15.1%).

Table 4. Mann-Whitney test of elderly's sleep quality in nursing home and community May 2014 (n=110)

| Living arrangement | Z | P value |
|--------------------|--------|---------|
| Nursing home | -3.306 | 0.001 |
| Community | | |

The result of Mann-Whitney test shows z score in this study is -3.306 with significance 0.001. P value < 0.05 means there is significant differences of elderly sleep quality in both groups.

DISCUSSION

Good sleep quality in older adults living with families in the community was 54.8% (40 respondents) is higher than both sleep quality elderly living at home at 18.9% (7 respondents). On the other hand, poor sleep quality in older adults in the nursing home by 81.1% (30 respondents) is higher than the percentage of poor sleep quality in older adults living with families in the community that is 45% (33 respondents). Research on quality of sleep in older adults living in the house the elderly and elderly people living in the community have not been done, so that research results cannot be compared with previous studies.

Poor sleep quality dominantly occur in nursing home, which is one form of institutional occupancy. This result is supported by Khasanah, in her research that states poor sleep quality in the elderly in an institutional occupancy of 70.1% Semarang (Khasanah, 2012). Similarly Oliveira-Araujo study results showed that 63% of the elderly in long-term institutional care Sao Paulo City get more PSQI score of 5 which means poor sleep quality (Oliveira, 2010). This phenomenon can describe the trend of sleep disorders in the elderly in institutional occupancy. Unlike the predominantly poor sleep quality in nursing home, elderly who live with families have more good quality sleep. This result is supported by Wu research that show 51% elderly in the community have good quality sleep (Wu et al, 2012)

Differences elderly sleep quality in nursing home and in the community can be seen in sleep latency and sleep efficiency. Most (40.5%) in the elderly homeless elderly have sleep latency of 60 minutes, while the majority of sleep latency (89.0%) of elderly living in the community less than 60 minutes (sleep latency less than 15 minutes was 28.8%, 16-30 minutes by 35%, and 31-60 minutes for 24.7%). This difference occurs because elderly in both study sites have different routines or habits before night sleep (Khasanah, 2012). The other sleep quality component that show the difference is sleep efficiency. Sleep efficiency of less than 65% experienced by 45.9% of respondents in the nursing home, while 56.2% of respondents who live with families in the community had a sleep efficiency of more than 85%.

The differences of both sleep quality components in the nursing home and community occurs due to different support. Support the elderly who live in nursing home elderly obtained from or caregiver. Nurse or caregiver on duty for 24 hours to provide routine care to the elderly in institutional occupancy, including the night shift which is the time for the elderly to sleep (Oliveira, 2010). Night sleep can be disrupted due to the routine care, so the sleep efficiency in nursing home is reduced. Support for the elderly in the community obtained from family and friends. Families are able to fulfil elderly's affective function and socialization, as well as friends in the community that provide social support to the elderly. This support will make the elderly feel loved and maintaining healthy behaviour through routine or sleep habit (da Costa, 2011). Sleep and wake up at the same time everyday can be a routine that improve the sleep efficiency (Khasanah, 2012). This is supported by other study that elderly sleep efficiency increases as long as in daily routine stability (Zisberg, 2010).

Living arrangement in elderly became one of the main factors that made up differences of sleep quality. This result is consistent with the theory that the environment will affect the lives of the elderly both in terms of biological, physical, psychological, and social aspect (Martono, 2009). Environmental stressors can be formed in behavioural characteristics of the elderly. There is a tendency in institutional dwelling that not all of elderly feel comfort with other residents, so they doesn care each other. Anxiety or fear if no one care about them can be internal stressor in elderly (Rosita, 2012). Previous research shows that elderly who experience social isolation is reported to have poor sleep quality and increased daytime sleepiness (da Costa, 2011).

According to da Costa, there is a significant correlation between sleep qualities and social relationships in the elderly. Elderly with harmonious family relationships and still engage in roles in society have better sleep quality (da Costa, 2011). Familiar feeling with both the atmosphere and individual objects within will support sleep for elderly (Leuckenotte, 2006). This can be an explanation to answer question why good sleep quality of elderly who living with a family in community is higher than elderly in nursing home.

CONCLUSION

The result of present investigation showed that 81.1% institutionalized elderly subject in Harapan Asri Nursing Home had poor sleep quality and only few of them had good sleep quality. However more than a half (54.8%) elderly subject who living with their family in RW V Kelurahan Pedalangan Banyumanik. There was a tendency that an institutionalized elderly had poorer sleep quality compared to elderly who living with their family in community.

Such information should be considered, even elderly subject on this study had poor sleep quality but many of them had good or very good subjective sleep quality. Moreover, further studies should be developed to answer this phenomenon or design certain strategies to increase sleep quality both in nursing home and community setting. Nurse's role become very important here. Perhaps nurse be able to give an intervention and collaborate with family or other social support to improve sleep quality in elderly.

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REFERENCES

- Anggrasari A P. 2013. *Pengaruh Teknik Relaksasi Benson Terhadap Pemenuhan Kebutuhan Tidur pada Lansia di Panti Wredha Hargo Dedali Surabaya*. Jurnal Kesehatan "Samodra Ilmu". Vol 4. No 02.
- BPS. 2012. *Statistik Penduduk Usia Lanjut Indonesia 2012*. Katalog BPS. 2012. Accessed from <http://www.bps.go.id> on October 25th 2013.

- Buyse D J, Reynolds III C F, Monk T H, Berman S R, Kupfer D J. 1988. *The Pittsburgh Sleep Quality Index: A New Instrument for Psychiatric Practice and Research*. Psychiatry research. Vol 28. 193-213.
- Da Costa AV, Ceolim MF, AL. 2011. *Sleep Problems and Social Support: Frailty in a Brazillian Elderly Multicenter Study*. Rev. Latino-Am. Enfermagem. Vol 19. No 4. 920-7.
- Kane R L, Ouslander J G, Abrass I B, Resnick B. 2008. *Essentials of Clinical Geriatrics*. New York: McGraw-Hill.
- Khasanah K, Hidayati W. 2012. *Kualitas Tidur Lansia Balai Rehabilitasi Sosial "MANDIRI" Semarang*. Jurnal Nursing Studies. Vol 1. No 1. 189-196.
- Lueckenotte AG. 2006. *Gerontologic Nursing*. 3rd edition. Missouri: Mosby Inc.
- Martono HH. 2009. *Pelayanan Sosial-Kesejahteraan pada Usia Lanjut*. Dalam: Martono HH, Pranarka K (Editor). Buku Ajar Boedhi-Darmojo Geriatri (Ilmu Kesehatan Usia Lanjut). Edisi ke-4. Jakarta. Pusat penerbitan Departemen Ilmu Penyakit Dalam Fakultas Kedokteran Universitas Indonesia. 763-770.
- Miller CA. 2004. *Nursing Care of Older Adult: Theory and Practice*. 4th edition. Philadelphia: Lippincott.
- Oliveira-Araujo Cld, Ceolim M. 2010. *Sleep Quality of Elders Living in Long-term Care Institutions*. Vol 44. No 3. 2010. 615-22.
- Rosita. 2012. *Stressor Sosial Biologi Lansia Panti Wredha Usia dan Lansia Tinggal Bersama Keluarga*. BioKultur. Vol 1. No 1. 43-52.
- Safitrie A, Ardani MH. 2013. *Studi Komparatif Kualitas Tidur Perawat Sift dan Non Sift di Unit Rawat Inap dan Unit Rawat Jalan*. Prosiding Konferensi Nasional Ppni Jawa Tengah. 17-23.
- Stanley M, Beare PG. 2007. *Buku Ajar Keperawatan Gerontik*. Edisi 2. Jakarta: EGC.
- Sustyani RA, Indriati PA, Supriadi. *Hubungan Antara Depresi dengan kejadian Insomnia Pada Lanjut Usia di Panti Wredha Harapan Ibu Semarang*. Accessed from <http://www.ejournal.stikestelogorejo.ac.id> on October 2013
- Undang-Undang Republik Indonesia no 13 tahun 1998 tentang Kesejahteraan Lanjut Usia. Accessed from http://www.dpr.go.id/uu/uu1998/UU_1998_13.pdf on October 10th 2013.
- Witoelar F. 2012. *Household Dynamics and Living Arrangement of the Elderly in Indonesia: Evidence from a Longitudinal Survey*. 229-260.
- Wiyono W, Widodo A. 2010. *Hubungan antara Tingkat Kecemasan dengan Kecenderungan Insomnia pada Lansia di Panti Wredha Dharma Bhakti*. Berita Ilmu Keperawatan ISSN 1979-2697. Vol 2. No 2. 87-92
- Wu CY, Su TP, Fang CL, Chang MY. 2012. *Sleep Quality Among Community-Dwelling Elderly People and Its Demographic, Mental and Physical Correlates*. Journal of the Chinese Medical Association. Vol 75. 75-80.
- Wulandari AFS. 2011. *Kejadian dan Tingkat Depresi pada Lanjut Usia: Studi Perbandingan di Panti Wredha dan Komunitas*.
- Zisberg A, Gur-Yaish N, Shochat T. 2010. *Contribution of Routine ti Sleep Quality in Community Elderly*. Sleep. Vol 33. No 4. 509-14.

DEVELOPMENT HEALTH AND SOCIAL SYSTEM IN LONG TERM CARE FOR THE PROMOTION OF ACTIVE AGEING IN THE NORTHERN AND RURAL COMMUNITY

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ABSTRACT

Background: Thailand society is expected to become a so-called "aged society" by 2025, only 20 years after its designation as an "aging society" in 2004. Older people in particular require supportive and enabling living environments to compensate for physical and psychological changes associated with aging. The World Health Organization (WHO, 2002) has established concepts to encourage active aging by optimizing opportunities for health, participation, and security in order to enhance people's quality of life as they age.

Objective: To develop health and social system in long term care for the promotion of active ageing in the Northern and rural community.

Method: The study is a qualitative research, employing the ethnographic approach in providing detailed description and interpretation of the meanings of active ageing in the viewpoints of community members within Northern sociocultural context. **Key-informants:** The unit of analysis in this study was the rural sub-districts; the focus of the analysis was the interaction between community members. The participants were selected by purposive sampling, ensuring that those involved could provide suitable information and were willing to participate in this study. The participants were 58 well older adults, 42 family caregivers, 51 health care volunteers, 13 health care providers, 23 community leaders, and 2 community development officers.

Results: The results of this study are divided into two parts: 1. providing cultural meaning of active ageing, which the most common perceptions of active ageing were maintaining physical health and functioning, continually active, and having security, and 2. health and social care services for older adults in community comprise of home care, accessible care, community services and health and social volunteer for three older adult health status groups: 1) the well older group 2) home bound older group and 3) bedbound older group.

Discussion: It was found that under the concept of active ageing and health and social care system. There were similarities to the concept of active ageing of the World Health Organization. Health and social service in community were available in all older adult groups, but different in demand of care and human needs. Coverage of health services for well older adult was quite adequate, but quality of care remained need special attention.

Conclusions: Providing Sub-district Administration Organization (SAO) as core team should support system and manpower. In order to provide better care for older adults, nurse in community should acquire knowledge and skills in

gerontological nursing, and empowerment and capacity building for the elderly clubs.

Keywords : *Health and Social system, Active Ageing*

BACKGROUND

The speed of demographic change in Thailand is remarkable. It will increase to 14.0 percent in 2015, 19.8 percent in 2025 and nearly 30 percent by 2050. Thailand society is expected to become a so-called "aged society" by 2025, only 20 years after its designation as an "aging society" in 2004. (Office of The National Economic and Social Development Board, 2013). The shorter time Thailand will take to become an ageing society means that the country also has a shorter time to adjust and to plan for this rapid demographic change. (Institute for Population and Social Research, Mahidol University, 2014)

The proportion of older adults means a rise in incidences of chronic disease and geriatric problem such as osteoarthritis, hypertension, diabetes mellitus, heart disease, fall, and dementia. The burden of chronic diseases encompasses a much broader spectrum of negative health. People living with one or more chronic diseases often experience diminished quality of life, generally reflected by a long period of decline and disability associated with their disease. Chronic diseases can affect a person's ability to perform important and essential activities, both inside and outside the home. (Foundation of Thai Gerontology Research and Development Institute, 2013)

The inability to perform daily activities can restrict people's engagement in life and their enjoyment of family and friends and loss of the ability to care for oneself safely and appropriately means further loss of independence and can often lead to the need for care. Obviously, the effective way to prepare for and deal with this anticipated problem is to promote healthy aging and require appropriate policies and programs on ageing as well as for health and social care services for older adults. (Srithamrongsawat S, Bundhamcharoen K, Sasat S., 2009)

In terms of family structure, there is a trend in reduced number of family member. Many families are having fewer children and as more young migrate from rural to urban areas, and from poorer to richer areas, they may not be available to provide care. Similarly, as women, the traditional care-giver are pulled into the labor force by economics necessity. They may be unable to continue providing those services. Changes in social structure provide a partial explanation of the increased need for health and social care solutions. (National Guideline on Home-Base Care/Community-Based Care, 2001; UNHCR, 2008, Colombo, F., 2011)

Many Thai older adults, especially those aged between 60-79 years, are relatively active at home and in their community, watching home or shop, doing housework, doing grocery shopping, cooking, and participating in community activities. Their contribution enables the adult generations to fully focus on their economic duties. Viewing older adults as contributors to society is the part of the concept of "active aging" The World Health Organization adopted this term along

with action plans that promote healthy and active aging. The concept of active aging has been viewed as the process of optimizing opportunities for health, participation, and security in order to enhance people's quality of life as they age. (World Health Organization, 2002). The aim of active aging extends the life expectancy and quality of life of all age.

Health and social care is a fundamental ethical obligation to provide care for all, most communities are faced with resource limitations and difficult decision about which of the competing need are met. Furthermore health and social care has been defined within the context of a way of life personal, sociocultural, health status, and health care policies. Thus, the purpose of this research was to develop health and social system in long term care for the promotion of active ageing in the Northern and rural community.

OBJECTIVE

To develop health and social system in long term care for the promotion of active ageing in the Northern and rural community.

METHODS

Design

The study is a qualitative research, employing the ethnographic approach in providing detailed description and interpretation of the meanings of active ageing and health and social care services in the viewpoints of community members within Northern sociocultural context. The study was conducted over period of 15 months from June 01, 2012, to August 31, 2013. The setting of this study was three rural communities in a sub-district of Phayao provinces.

Key-informants

The unit of analysis in this study was the rural community, the focus of the analysis was the interaction between community members. The participants were selected by purposive sampling, ensuring that those involved could provide suitable information and were willing to participate in this study. The participants were 58 well older adults, 42 family caregivers, 51 health care volunteers, 13 health care providers, 23 community leaders, and 2 community development officers.

Data collections

Data were obtained through participatory observations, natural interviews, in-depth interviews, focus group discussion, field noted taking, and a review of formal documentation. Participant observation is a qualitative method with roots in traditional ethnographic research and focuses on the meaning of human existence as seen for the standpoint of insiders in everyday life situations and settings. In this study the researcher used participant observation for understanding the way of life's community members in a natural setting. Digital sound recorder and writing were used to record data during in-depth interviews. Each participant was interviewed between 45-60 minutes per time and 1-2 times to ensure accuracy of the information. Focus group discussion which took about 90-120 minutes for each group, in this study the researcher used focus group discussion to confirm the health and social care services to promote active aging.

Data analysis

The quantitative data were analyzed by descriptive statistics: Frequency and percentage. Qualitative data were analyzed by content analysis.

Ethical Considerations

The research proposal was submitted for approval to the human research ethics committees of Phayao university, Thailand

RESULTS

The results of this study are divided into 2 parts: 1) providing cultural meaning of active ageing, and 2) health and social care services for older adults in community.

1. Providing cultural meaning of active ageing.

The most common perceptions of active ageing were maintaining physical health and functioning, continually active, and having security, which means the older persons are able to care for themselves, perform their favorite activities, participate in community activities, having economic stability and grateful children.

2. Health and social care services for older adults in community

2.1 Health status

In the community, there were three older adult health status groups: 1) the well older group who could look after themselves or other person 2) home bound older group which needed the help of another person or medical equipment such as crutches, walker, or wheelchair. 3) bedbound older group which confined to bed. Chronic disease was the most severe health problems that caused the older adults to use health services. These were arthritis, diabetes mellitus, hypertension.

2.2 Health and social care services from the perspective of community groups

Health and social services are vital to maintaining health and independence in the community. The services in community comprise of accessible care, a wider range of health services, home care, community services and health and social volunteer for older adults.

1) Needed direct services, because of mobility problem, visual and/or hearing impairments, staying at home alone, the older adults need care at home

"I really glad that Mor-Yai (physician) and Mor-noi (nurse) visits me at home"

"I have limited mobility to see a doctor"

"I have difficulty finding transportation to go to hospital"

2) Volunteers wanted

"I am really concerned about my illness, I need someone to help me at home"

"Sai (health volunteer) took my blood pressure, body weight at home once a month"

"Wut (volunteer for older adults) took me to see a doctor appointment"

3) Having no money to spend.

"I still worked hard in the fields, because I didn't have enough money.

"I don't make enough money each month to pay all my bills

"I want to work to earn money raising grandchildren"

"I do not have sufficient income to expense"

"It is better that the government has to pay more money per month, older adults here are poor"

4) Community participation

"Now I am 65 year old, I have been the health care volunteer since 1980 until present"

"I always participate in any social activities"

"We need to assist the old people to remain employed. To work is a gift of health and of life." (Head of elder club)

"Nai-Yok (head of Administration Organization) contributes budget to elder club"

DISCUSSION

It was found that under the concept of active ageing and health and social care system at the rural community. There were similarities to the concept of active ageing of the World Health Organization (2002). Health and social service in community were available in all older adult groups, but different in demand of care and human needs. Coverage of health services for well older adult was quite adequate, but quality of care remained need special attention such as screening on aging problems. Social care was not systematically developed and lack of continuity of service, especially financial support, only a fourth of older adults reported their financial resources to be adequate to make both ends meet. Therefore, there is a significant gap between the actual need and current provisions of social security.

The higher incidence of population ageing in the Northern is largely due to out-migration of younger adults seeking better opportunities for employment or education. Even though their children had usually migrated to other places, they still to get the provision of some kind support such as informational (talking over a problem, providing encouragement) or instrumental support (food, provision of transportation) from their friends, neighbors within the community. Older adults want to be accepted and to participate equally in society. Every activity and project should include every older adult, without discrimination, it is important to decrease their family dependency and to encourage active aging in older adults.

CONCLUSIONS

1. Providing Sub-district Administration Organization (SAO) as core team
2. should support system and manpower.
3. In order to provide better care for older adults, Nurse in community should acquire knowledge and skills in gerontological nursing.

4. The health and social care model was identified roles of stakeholders, community resource and capacity.
5. Improvement of the health and social care system for the older adults in the health, economic, and social dimensions to lengthen the period of co-existence with the family and community.
6. Empowerment and capacity building for the elderly clubs.

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REFERENCES

- Colombo, F. et al. (2011). Help Wanted? Providing and Paying for Long-Term Care. Retrieved March 30, 2013, from www.oecd.org/health/longtermcare/helpwanted.
- Foundation of Thai Gerontology Research and Development Institute. (2013). Annual Report Situation of The Thai Elderly 2012. Nonthaburi: SS Plus Media.
- Institute for Population and Social Research Mahidol University. (2014). Population Aging in Thailand 2014. Retrieved October, 30 2014, from <http://www.ipsr.mahidol.ac.th/ipsr/Contents/Books/FullText/2014/2014-Population-Aging-Poster.pdf>
- National Guideline on Home-Base Care / Community-Based Care . (2001). Defining Home-Based Care (HC) and Community-Based Care (CC). Retrieved July, 2008, from www.doh.gov.za/docs/factsheets/guidelines/homecare.
- Office of The National Economic and Social Development Board. (2013). Population Projections for Thailand 2010-2040. Bangkok: Octoberprint Press
- Srithamrongsawat S, Bundhamcharoen K, Sasat S. (2009). Projection of demand and expenditure for institutional long-term care in Thailand. Health care reform project: Thai-European Cooperation for Health.
- UNHCR. (2008). A Community-based Approach. Retrieved December 03, 2008, from www.unhcr.org.
- World Health Organization. (2002). Active Ageing A Policy Framework. Retrieved March 10, 2014, from http://whqlibdoc.who.int/hq/2002/WHO_NMH_NPH_02.8.pdf

THE EFFECT OF SPIRITUALITY LEVEL ON THE INCIDENCE OF ELDERLY DEPRESSION IN PADANGSARI DISTRICT

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ABSTRACT

Background. Spirituality is a part of quality of life included at self-capacity domain. Spirituality has an important role to increase the effectiveness of depression treatment. Some research has been done to prove the effect of spirituality to depression treatment. However, most of that study was conducted in Western countries which have different culture, heterogeneity and religiosity with Indonesia.

Objective. The aim of this study was to identify the spirituality and depression level and also analyzes the effect of spirituality on the incidence of depression in elderly.

Methods. The research methods used was non-experimental of analitic descriptive with observation and structured interview. The respondents were 88 elderly in Padangsari District of Semarang City. The sample was taken by simple random sampling technique. The instruments used are Daily Spiritual Experience Scale, consist of 16 items and Geriatric Depression Scale, consist of 15 items.

Results. The research result indicated the spirituality level of 65,9% (58 persons) elderly was high, 31,4% (30 persons) was moderate and there was no person in low level. The depression level was quite varied that 40,9% (36 persons) didn't suffer by depression, 40,9% (36 persons) suffered mild depression and 18,2% (16 person) suffered by moderate depression. Analysis of data with Chi Square test revealed that spirituality level was significantly influence the incidence of depression in elderly with p value 0.000 and α 0.05. Another result showed that higher spirituality level would make a lower incidence of depression in elderly.

Conclusion. This result of study can be used as reference to improve spirituality level in order to prevent depression which is highly risk occur in elderly.

Keywords: spirituality level, depression level, elderly

BACKGROUND

Elderly is the last periode of someone's life. Every individual will experience aging process and changes happen in every aspect included psysiology, psychology and social aspect (Miller, 2004). In 2002th Indonesia had

7,18% elderly from 14.439.967 people and in 2009th elderly in Indonesia arise to 9,77% or 23,9 million people of elderly (Menkokesra, 2010). Further more, raising of elderly causes a big demand to the quality and quantity of health services.

Shives said that biological changes in elderly will usually effect the mood which lead to anxiety, loneliness, feeling guilty, somatic disorder, demensia and also depression (Shives, 2005). Depression can be treated well. According to Kaplan and Benjamin (2010), there are ways to handle depression in the socity and one of them is increasing the individual spirituality.

Spirituality is a part of someone's quality of life which is lie in self capacity domain consist of personal values, standars and believes (Toronto University, 2010). Spirituality also hold an importance roles in increasing the effectivity of treathing depression. The research about the importance of spirituality to treat depression had done by Marsha, Jin Hin Joo, Lisa & Frances, 2009th. The research was qualitative design which was also talked about religious activity beside spirituality and depression.

The result show that according to respondents, depression was a crisis spirituality condition and one of the characteristic was decreasing of faith. Most of respondents said that the high level of someones' spirituality will give a strong coping mechanism that will lead to the effectivity of treathening the depression.

Unfortunately, Indonesia has lack of research about spirituality. In the other hand many research had done about the importance of spirituality to give effective treatment to any other illness or to increasing coping mechanism of individual, but in the different setting and different culture. Otherwise, Indonesia has the most heterogeneity condition of the society, in religion, culture and also health behavior which is very different with the other country.

OBJECTIVE

There were three kinds of objectives in this research. The first was to identify the spirituality level of the elderly in Padangsari District of Semarang city. The second was to identify depression level of the elderly in Padangsari District of Semarang city. The third was to analyze the effect of spirituality level on the incidence of depression of the elderly in Padangsari District of Semarang city.

METHODS

The research methods used was non-experimental of analitic descriptive with observation and structured interview. This was also a quantitative and cross sectional design of research. The population were 189 elderly with inclusion criteria. The respondents were 88 elderly in Padangsari District of Semarang City. The sample was taken by simple random sampling technique. The elderly was given explanation about the purpose of the research and also the benefit. Than, they asked to give their signature to the informed concent given. After that, they asked to fill the instruments. The instrument used was Daily Spiritual Experience Scale, consist of 16 items, given to measure the level of spirituality. Score of 15-40 for low level of spirituality, 41-65 for moderate level and 66-90 for high level

of spirituality. The other instrument was Geriatric Depression Scale with short form, consist of 15 items. Score of 0-4 for not depression, 5-9 for mild depression, 10-12 for moderate depression and 13-15 for severe depression. Than the data was analized by Chi Square test.

RESULTS

Tabel 1
Characteristic of The Elderly in April-May, 2012th
(n=88)

| Characteristics | F | % |
|-----------------|----|------|
| Gender | | |
| Male | 39 | 44,3 |
| Female | 49 | 55,7 |
| Age | | |
| 60-62 year | 41 | 46,6 |
| 63-64 year | 29 | 32,9 |
| 65-68 year | 18 | 20,5 |
| Religion | | |
| Muslim | 53 | 60,2 |
| Catolik | 18 | 20,5 |
| Christian | 17 | 19,3 |
| Total | 88 | 100 |

Tabel 1 showed that most of the elderly or 55,7% (49 persons) are female, most of them or 46,6% (41 persons) are in age of 60-62 year and all the elderly had certain religion. None of respondent is with atheis.

Tabel 2
Depression Level of The Elderly in April-May 2012th
(n=88)

| Depression Level | F | % |
|---------------------|----|------|
| Not Depression | 36 | 40,9 |
| Mild Depression | 36 | 40,9 |
| Moderate Depression | 16 | 18,2 |
| Severe Depression | 0 | 0 |
| Total | 88 | 100 |

Tabel 2 showed that the depression level of the elderly were vary. The elderly which were not depression were 40,9% (36 persons). There's no elderly had severe depression (0%).

Tabel 3
Spirituality Level of The Elderly In April-May 2012th
(n=88)

| Spirituality level | F | % |
|--------------------|----|------|
| Low | 0 | 0 |
| Moderate | 30 | 34,1 |
| High | 58 | 65,9 |
| Total | 88 | 100 |

Tabel 3 showed that the spirituality level of the elderly were also vary. The elderly with high level of spirituality were 65,9% (58 persons). 34,1% (30 persons) elderly were in moderate level and There's no elderly had low level of spirituality (0%).

Below is the result of statistic test for the effect of spirituality level on the incidence of elderly depression. The test used was *Chi-Square* test.

Tabel 4
The Effect Of Spirituality Level On The Incidence Of
Elderly Depression In Padangsari District Semarang (n=88)

| | | Depresi | | | Total | P value |
|---------------------|----------|-------------|-------------|-------------|-------------|---------|
| | | none | mild | moderate | | |
| Spirituality | Moderate | 3 3.4% | 13 14.8% | 14 15.9% | 30 34.1% | 0.000 |
| | High | 33 37.5% | 23 26.1% | 2 2.3% | 58 65.9% | 0.000 |
| TOTAL | | 36 40.9% | 36 40.9% | 16 18.2% | 88 100% | 0.000 |

Tabel 4.4 showed that p value is 0.000 ($\alpha = 0.05$). P value is less than alpha. It means that the level of spirituality effect significantly on the level of depression in elderly. It also showed that a high level of spirituality has less effect on the incidence of moderate depression for 2,3% (2 persons) and moderate level of spirituality has least effect on the incidence of not depression for 3,4% (3 persons). In the other words we can say that the higher of the spirituality level is, the lower the level of depression. On the contrary, if the spirituality level of the elderly is low, so it will cause higher depression.

DISCUSSION

Spirituality Level of the Elderly

Old age is the best period to be near to the God, so individual can prepare for the better future life. Ideally, if someone getting older, he or she will try to get closer to the God, so that the level of spirituality will also higher. This is already

said in the theory that spirituality has importance role to someone's health especially mental health. Spirituality works as a buffer or mediator to stress facing by someone, and than it will lead to increasing wellness. (Daaleman, T. P., Perera, S., and Studenski, S. A, 2004th).

Most of the elderly (65,9%) in Padangsari district had a high spirituality level. But still, there were elderly (34,1%) had moderate level of spirituality. These result were the same with the research before done by Maula Mar'atus S (2012th) studied about spirituality level and spirituality needs in Diabetic patient in Padangsari District. The study followed by 31.7% elderly in age of 65th and 63,3% persons of middle age in age of 51-65th. The result showed that 98,3% (59 patients) elderly with diabetic illness had high spirituality and only 0,7% (1 patient) of diabetic elderly had moderate level of spirituality (Maula M, 2012th).

The level of high spirituality in elderly of Padangsari District had mean score of 70,3. Tischler et al (2002th) said that there are four (4) competencies improve by developed/ high spirituality, which were:

- a. Personal awareness, or self awareness is how someone manage him/ her self, judge a positive side of self, self esteem, autonomy, and self actualization.
- b. Personal skills, is how someone can be able to independent, flexible and had a good coping and adaptation.
- c. Social awareness, include a positive attitude, empathy, and altruisme
- d. Social skills, include a good interpersonal relationship with friends, leader and management, showing open mind attitude to the other person and welcome to new persons.

Those competences mentioned by Tischler could be found in elderly of Padangsari district. Most of them showed a good social skill, showing open mind attitude to the other person and welcome to new persons included to the researcher.

Depression Level of the Elderly in Padangsari District Semarang City

WHO mentioned that depression would be the second reason for *disability* in the world on 2020th. Depression in elderly could lead to a worst another mental illness, functional disturbance even death⁽⁴³⁾. The incidence of depression in elderly in Padangsari district were vary, range from not depression to moderate depression. There were not elderly with severe depression. Research before done by Lee, Choi, Jung & Kwak (2000th) in Seoul, South Korea had the same result with this study. Lee at all reported that the incidence of depression in elderly in Seoul were 44% from all elderly in Seoul. The depression were also vary, 18,8% elderly experience mild depression, 7,4% elderly facing moderate depression and 17,8% erlderly with severe depression (Lee, Choi, Jung & Kwak, 2000th).

The Effect Of Spirituality Level on The Incidence of Elderly Depression

The distribution of respondents experience depression were more than the distribution of respondents with not depression which were 81,8% for depression and 18,2% for not depression (n=88). The distribution of respondents having high level of spirituality were more than the distribution of respondents with moderate

level of spirituality which were 65,9% for high spirituality and 34,1% moderate spirituality (n=88). The effect of spirituality to depression were also very significant based on the Chi Square Test which were p value was 0,000 ($\alpha = 0,05$), the p Value was less than alpha.

This findings were already said in the empirical theories and believed from long ago. The study had been done by experts in gerontological area. The study showed that religiosity and spirituality gave effect to protect psychological aspect of the elderly especially psychological well-being, life quality, life satisfaction, less depression symptoms and happiness beside the physical aspect (Boswell, G. H., Kahana, E., & Dilworth-Anderson, P, 2006th).

The interesting phenomenon in this research was that there were quite much the high level of spirituality in the elderly, but in the other hand they also had mild level of depression for 26,1%. Ideally, the elderly with high level of spirituality should have no depression in his/ her life. Many researchs before had answered the phenomenon that spirituality effected depression, but there's no research could not answer the fenomenom that high level of spirituality sholud effect no depression. Many research had also been done to analyze factors affecting the arising of depression in the elderly and one of the factor was family support.

Dicky Budi N, 2011th studied about the differencies between depression in elderly living in nursing home and depression in elderly living with family. The research was done in Diro village and "Tresna Wredha Budi Luhur Unit Nursing Home" Yogyakarta. Respondents in this study were 35 elderly who live with family and 35 elderly who live in nursing home. Data was analyzed by paired t test and the result was p value= 0,028 with $\alpha = 0,05$. The p Value was less than alpha. So, the study said that there were significant differencies between depression in elderly living in nursing home and depression in elderly living with family. The study also showed that the depression in the elderly living with family was less than the depression in the elderly living in nursing home.

One more factor affecting depression in elderly are lack of preventive intervention in treathing depression both in the clinic or community. Based on Health Departement of Indonesia, 2003th in manual book of Erderly Health Management, primary care unit for erderly has duty to cover health services for erderly both in physical health and mental health. However, the practice had not maximal yet. Findings from observation in Padangsari District, services in primary care unit were given for physical health problem more than mental health problem on Januariy-Mey 2013th. Whereas, mental health is important same as physical health.

CONCLUSSION

Findings showed that depression level of the elderly in Padangsari District of Semarang city were vary. The sum were the same of the elderly who had no depression and the elderly who had mild depression. Beside that, there're no elderly with severe depression. For the level of spirituality, most of the elderly had high level of spirituality and the high level of spirituality effected significantly to the incidence of lower depression.

This findings can contribute to nursing practice especially to community and mental health services. The services could be more comprehensive and holistic, not only focused on the physically health problem but also mental and spiritual problems. Further research are needed to identify any kind of spiritual therapy for decreasing the incidence of depression. Recommendation for family, they should be able to give more support for the elderly member to avoid arising of depression.

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REFERENCES

- Boswell, G. H., Kahana, E., & Dilworth-Anderson, P. (2006). Spirituality and healthy lifestyle behaviors: Stress counter-balancing effects on the well-being of older adults. *Journal of Religion and Health*, 45, 587–602.
- Daaleman, T. P., Perera, S., & Studenski, S. A. Religion, spirituality, and health status in geriatric outpatients. *Annals of Family Medicine*, 2, 49–53. 2004.
- Health Departement of Indonesia. Antara Lansia yang tinggal bersama keluarga di Dusun Diro dengan lansia di Panti Sosial Tresna Werdha Yogyakarta Unit Budi Luhur. Skripsi. Fakultas Kedokteran Universitas Negeri Sebelas Maret. 2011.
- Kaplan & Benjamin, 2010. *Complementary therapies*. <http://www.thewellproject.org>. diakses pada 19 Desember 2012.
- Lee, M. S., Choi, Y. K., Jung, I. K., & Kwak, D. I. (2000). Prevalence of depression among Korean elders living in a city. *Korean Geriatric Psychiatry*, 4(2), 154–163.
- Marsha, Jin Hin Joo, Lisa & Frances. Losing Faith and Using Faith: Older African American discuss Spirituality, Religious activity and depression. *General Internal Medicine Journals*. 2009.
- Maula Mar'atus S. Studi Eksploratif Tingkat Spiritualitas dan Kebutuhan Spiritualitas Pasien Diabetes Melitus di Kelurahan Padangsari Kota Semarang. Skripsi. Program Studi Ilmu Keperawatan Universitas Diponegoro. 2012
- Menkokesra. *Distribusi Statistik Lansia di Indonesia*. <http://menkokesra.go.id/jumlah-lansia-di-Indonesia>. 2010. diakses pada 10 Desember 2012.
- Miller. *Nursing for Wellness in Older adults : Theory and Practice*. USA : Lippinoncoot William&Wilkins. 2004
- Shives LR. *Basic Concepts of Psychiatric Nursing*, 6th edition. Philadelphi: Lippinoncoot William&Wilkins. 2005.
- Tischler, L., Biberman, Jerry., & Mckeage, R. Linking emotional intelligence, spirituality and workplace performance. *Journal of Manegerial Psychology*, 2002 42(2), 16-33.

- University of Toronto*, 2010. The Quality of live model.
<http://www.utoronto.ca/qol/concepts>. diakses pada 20 Desember 2012
- World Health Organization. 2008. Depression. Retrieved April 18, 2008, from
http://www.who.int/mental_health/management/depression/definition/en/.
diakses pada 18 Juni 2013

ANALYSIS OF SEXUAL BEHAVIOR IN ADOLESCENTS IN PEKANBARU CITY, RIAU

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ABSTRACT

Background: Sexual behavior in adolescents continues to increase from year to year. This could be due to biological factors, namely the maturity of the reproductive organs which is characterized by puberty. The impacts of sexual behavior in adolescents are sexual transmitted diseases, abortion and dropout.

Purpose: The purpose of this study was to identify sexual behavior in adolescents in Pekanbaru City, Province of Riau.

Methods: This research was a quantitative study using descriptive design. Data was collected by using purposive sampling with the number of samples were 600 adolescents in senior high school. The data was analyzed using univariate data.

Results: The results showed that majority characteristic of adolescents are the middle adolescent (89%), girls (51,7%), and Minang ethnic (39,2%). Adolescents have sexual behavior which is consist of holding hand 94%, hug dating 64.5%, kiss on the cheek 61,5%, masturbation 12.8%, kissing 51%, petting 8% and intercourse 2%.

Conclusions: It was suggested that school nurses develop a Youth Care Health Services (PKPR) program as an extension of the peer counselors. Adolescent in the school should be given PKPR programs earlier so that they can control themselves against risky sexual behavior. Teacher should instill values and morality in the prevention of adolescent sexual behavior.

Keyword: adolescents, school, sexual behavior

BACKGROUND

The objectives of the Millennium Development Goals 2015 (MDGs) is the achievement of basic education including adolescents. The number of adolescents in Indonesia are 29% which is create the next generation of quality nation (Central Bureau of Statistics, 2010). Adolescents are a period of growth and development which includes physical and psychological characteristics (Sarwono, 2011). Characteristics of adolescents during puberty are the physical aspect and reproductive maturity level is usually 12 age in girls and 14 age in boys (Kozier, Erb, Berman, & Synder, 2004). Psychological aspects of adolescents have a great curiosity to try something interesting for him to be put adolescents at risk groups to health problems in the community, one of the sexual behavior (Stanhope & Lancaster, 2004).

Sexual behavior in adolescents continues to increase from year to year. Davis and Friel (2011) stated that adolescent who 14-17 age years in the US had a habit of having sex 72.6% girls and 85.6% boys. Sexual behavior in adolescents increase with age. Until 18 age years there were 89% boys and 77% girls had having sex.

In Indonesia, sexual behavior was very worrying. Surveys and studies have reported the incidence of adolescents sexual behavior is quite significant. As 60% of adolescents in West Java had engaged in sex, where 91% had sexual behavior, peer influence and the lack of parental control (Annisa Foundation, 2007). This data was supported by the Sexual Behavior Survey (2011) showed that 39% of respondents had sexual intercourse at 15-19 age years, the remaining 61% in 20-25 age years.

Pekanbaru is one of the cities in Indonesia are vulnerable to sexual behavior of adolescents. Dinata (2013) showed that as much as 2.7% of adolescents had sexual behavior. Survey in five schools that 20% of students said that they had made expenditures due to pregnancy. However, these events tend to be covered in the school. Until now, statistical data adolescent sexual behavior and the impact caused for adolescents Pekanbaru yet. This showed the lack of information about adolescent sexual behavior so that adolescent sexual behavior reduction programs run less than optimal.

Sexual behavior has a huge impact for adolescents (UNPFA, 2009). Sexual behavior could lead to increased sexual problems such as unprotected sexuality, sexually transmitted diseases such as HIV AIDS, pregnancies, abortions and maternal and infant mortality rates (Sarwono, 2011; UNPFA, 2009). BKKBN (2007) stated that 21.2% of adolescents have abortions, and 11% of births occurred in adolescence.

Based on the above, it can be concluded that the sexual behavior of adolescents are actively increasing from year to year. This becomes a big problem serious to be handled by the various parties. Therefore, research must be done early to identify the sexual behavior of adolescents in high schools in the city of Pekanbaru. The purpose of this study was to identify the sexual behavior of adolescents in Pekanbaru.

METHODS

Samples were taken by purposive sampling technique, the respondent will be set in accordance with the inclusion criteria. Inclusion criteria for adolescents, among others who have or are dating and are willing to become respondents. The involvement of various stakeholders including the Department of Education, schools including UKS, counseling, the health center and BKKBN program. Data were analyzed using frekuensi distribution and percentage.

RESULTS AND DISCUSSION

Table 1. Characteristics of adolescents

| No | Characteristics of adolescents | Frequency | (%) |
|----|--------------------------------|-----------|------|
| 1. | Age | | |
| | a. Early | 59 | 9,8 |
| | b. Middle | 534 | 89 |
| | c. Late | 7 | 1,2 |
| 2. | Gender | | |
| | a. Girls | 290 | 48,3 |
| | b. Boys | 310 | 51,7 |
| 3. | Ethnic | | |
| | a. Minang | 235 | 39,2 |
| | b. Malay | 138 | 23,0 |
| | c. Jawa | 116 | 19,3 |
| | d. Batak | 78 | 13,0 |
| | e. Etc | 33 | 5,5 |
| | Total | 130 | 100 |

The results showed that the majority of respondents as many as 534 people (89.0%) are in the category of mid adolescents (16-18 years). Adolescents in middle age where this period adolescents have started to make physical contact with the opposite sex. In addition, the middle adolescents ages spend more time with peers. This leads to adolescents more easily influenced by the behavior of their peers. Negative peer influence can increase the incidence of risky sexual behavior in adolescents (Santrock, 2005).

The middle adolescents started showing risky sexual behavior according to the results of research Dewi, Sahar and Gayatri (2012) stated that adolescents in middle age and ending at the high school level are more risky sexual behavior than adolescents in the 12 to 14 age years, in which time the adolescent period to adapt transition from childhood into adolescence. This data supported by the Sexual Behavior Survey in 2011 showed that 39% of respondents had ever sexual intercourse at 15-19 age years.

The results showed the percentage of male respondents and women are not much different, 48.3% girls and 51.7% boys. Gender affect adolescent sexual behavior (Christopherson and Conner, 2012). Differences between boys with girls in sexual behavior caused by biological and social factors (Allender, Rector & Warner, 2010). Biological factors boys are more easily aroused and get an erection and orgasm than women, whereas social factors males tend to be more free than women. Parents or community in parenting also tend to be more protective against adolescent girls.

Furthermore, based on the results, as many as 235 people (39.2%) of respondents have tribes Minang, and the rest are Malays, Javanese, Batak, etc. Tribe has a culture that contains the concepts of the community about what is considered valuable, valuable and important in life that governs all aspects of life, including the relationship between the young men and women.

Table 2. Distribution of sexual behavior of adolescents

| No | Sexual Behavior | Frequency | (%) |
|----|-----------------|-----------|-----|
| 1. | Risky | 306 | 51 |
| 2. | Not Risky | 294 | 49 |
| | Total | 130 | 100 |

Table 2 showed respondents' descriptions of sexual behavior, where as many as 306 people (51%) of respondents have risky sexual behavior and 294 people (49%) of respondents have not risky sexual behavior. Mc Kinley Health Center in Miron and Miron (2002) mentions levels of sexual behavior which is divided into two risky sexual behaviors include 1) talk about sex; 2) share a fantasy; 3) lips kiss; and 4) a massage or touch. While risky sexual behavior when doing french kiss, petting, sex or anal sex. Kissing lips part-risk sexual behavior because it can spread health problems among couples such as pulmonary TB, Hepatitis and others.

Dewi Sahar and Gayatri (2012) stated that adolescents knowledge and action that are less well where in the end the sexual behavior of adolescents are relatively high. Sarwono (2011) stated that lack of knowledge is accompanied by a big sex drive due to hormonal changes in adolescence make adolescents take wrong decisions, by making risky sexual behavior. Adolescent sexual behavior can be more fully detailed as follows:

Table 3. Distribution of sexual behavior stage of adolescents

| No | Sexual Behavior | Frequency | (%) |
|----|--------------------|------------|------------|
| 1. | Holding hand | | |
| | a. Yes | 564 | 94 |
| | b. No | 36 | 6 |
| 2. | Hug | | |
| | a. Yes | 387 | 64,5 |
| | b. No | 213 | 35,5 |
| 3. | Kiss | | |
| | a. Yes | 369 | 61,5 |
| | b. No | 231 | 35,5 |
| 4. | Masturbation | | |
| | a. Yes | 77 | 12,8 |
| | b. No | 523 | 87,2 |
| 5. | French kissing | | |
| | a. Yes | 306 | 51 |
| | b. No | 294 | 49 |
| 6. | Petting | | |
| | a. Yes | 48 | 8 |
| | b. No | 552 | 92 |
| 7 | Sexual intercourse | | |
| | a. Yes | 12 | 2 |
| | b. No | 588 | 98 |
| | Total | 130 | 100 |

Sexual behavior done by respondents that holding hands 94%; cuddle 64.5%; kissing 61.5%, masturbation 12.8%. Sumiati (2009) stated that adolescents regard a natural thing if the adolescents dating sexual activity. The high perception of adolescents on the fairness of sexual activity due to changes in adolescents dating style at this time. Adolescents dating style is not enough just to talk but had no physical contact of the hand grip, a hug, a kiss and some even have sex.

The results showed that risky sexual behavior done by respondents is French kiss 51%; body touching each other's 8.0% and sex behavior 2.0%. This is supported by study of Dewi, Sahar and Gayatri (2012) stated that the risky adolescent sexual behavior as much as 56.8%. Adolescents interest in the opposite sex appreciated through sexual activity with a partner. Duvall and Miller (1985 in Friedman, Bowden & Jones, 2003) revealed that sexual activity with a partner following a series of process improvement, starting from the touch, kiss, grope through sexual intercourse. This condition causes the risky adolescent sexual behavior (Stanhope & Lancaster, 2004).

CONCLUSION

The majority of respondents as many as 534 people (89.0%) are in the category of mid adolescents (16-18 years). The percentage of male respondents and women are not much different, ie 48.3% and 51.7%. A total of 235 people (39.2%) of respondents have tribes Minang, and the rest are Malays, Javanese, Batak, etc. Description of the sexual behavior of respondents, where as many as 306 people (51%) of respondents have risky sexual behavior and 294 people (49%) of respondents have not risky sexual behavior. Risky sexual behavior done by respondents were french kiss 51%; body touching each other's 8.0% and sex behavior 2.0%.

REFERENCES

- Albert, D., Chein, J. & Steinberg, L. (2013). The Adolescentsage Brain: Peer Influences on Adolescent Decision Making. *Current Directions in Psychological Science*, XX(X) 1–7.
- Allender, J.A., Rector, S., & Warner, B.W. (2010). *Community Health Nursing : Promoting and Protecting The Public's Health. 7th Edition*. Philadelphia: Lippincott William and Wilkins
- Annisa Foundation. (2007). *Results of Pre-Marital Sex Behavior Research Adolescent West Java*. Retrieved from www.annisafoundation.com
- Badan Pusat Statistik (2010). *Data SP2010 According to Age Group*. Retrieved from www.bps.go.id.
- Bingenheimer, J.B., Asante, E. & Ahiadeke, C. (2015). Peer Influences on Sexual Activity among Adolescents in Ghana. *Studies in Family Planning*, 46[1]: 1–19.
- BKKBN. (2010). *Pornography surge thousands years ago*. Retrieved from bkkbn.go.id

- BKKBN. (2010). *Signs of Child Start Puber*. Retrieved from ceria.bkkbn.go.id
- Christopherson, T.M. & Conner, B.T. (2012). Mediation of Late Adolescent Health Risk Behaviors and Gender Influences. *The Journal of Public Health Nursing*. 10(4). 410-413.
- Davis, F.K. & Friel, F. (2011). *Adolescent Sexual Activity: An Ecological, Risk-Factor approach*. Journal of Marriage and The Family, 2011p. 181-192.
- Dewi, Ari Pristiana, Sahar & Gayatri (2012). *The relationship of characteristics, Peers and Exposure to Pornography to Sexual Behavior of Adolescent*. Retrieved from lontar.ui.ac.id
- Dinata, H.R. (2013). *Overview Knowledge, Attitudes and Actions Adolescent Sexual*, Retrieved from jom.unri.ac.id
- Dodge K. and Gonzales, N. 2010. *Family and peer influences on adolescent behavior and risk-taking. Paper presented at IOM Committee on the Science of Adolescence Workshop*, Washington, DC.
- Friedman, M.M., Bowden, V.R., & Jones, E.G. (2003). *Family Nursing: Research Theory & Practice*. New Jersey: Prentice Hall.
- Kementrian Kesehatan Republik Indonesia. (2011). *Adolescent problems in reproductive behavior in order to achieve MDG targets*. Retrieved from www.depkes.go.id.
- Kozier, B., Erb, G., Berman, A., & Synder, S.J. (2004). *Fundamental of Nursing Concepts, Process, and Practice*. Seventh Edition. USA : Pearson Prentice Hall
- Maryatun. (2013). *Role of Peers Against Pre-Marital Sexual Behavior In Adolescent*. Surakarta. Gaster, 10(01).
- Miron, A., G & Miron, C., D. (2002). *Talk About: Love, Dating and Sex To Adolescent*. Jakarta : Esensi Erlangga Group.
- Morton dan Farhat. (2010). Overview of Sexually Transmitted Diseases. *The Journal of School Nursing*. 24(2). 280-295.
- Richards, S. O. (2010). Peer Effects in Sexual Initiation: Separating Social Norms and Partner Supply (2010). *Publicly accessible Penn Dissertations*. Paper 118.
- Santrock. (2005). *Adolescent*. Tenth edition. New York; The McGraw Hill Co. Inc.
- Sarwono, Sarlito W. (2011). *Adolescent Psychology Edisi Revisi*. Jakarta : Rajawali Pers
- Stanhope, M., & Lancaster, J. (2004). *Community and Public Health Nursing: 5th edition*. St. Louis: Mosby-Year Book, Inc.
- Van de Bongardt, D., Reitz, E., Sandfort, T., Deković, M., (2014). A Meta-Analysis of the Relations Between Three Types of Peer Norms and Adolescent Sexual Behavior. *Personality and Social Psychology Review*. <http://psr.sagepub.com/content/early/2014/08/15/1088868314544223.abstract>
- Yayasan DKT Indonesia. (2012). *Sexual Behavior Survey Indonesia 2011*. Retrieved from www.dktindonesia.org

DESCRIPTIVE STUDY ON MOTHER'S KNOWLEDGE ABOUT PREPARATION OF TOILET TRAINING ON THE CHILDREN WITH THE AGE TODDLER (1 – 3 YEARS) IN WINONG VILLAGE NGAMPEL DISTRICT KENDAL REGENCY

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ABSTRACT

Background: Toilet training is one of effort to train the children in order to control defecating and urinating. It is also expected that children are be able to defecate and urinate in the appropriate place. The succes of toilet training depends on the children them selves and the family.

Purpose: The purpose of this research was to describe of mother's knowledge about the readniness of toilet training on the children with the age toddler 1 until 3 years in Winong Village Ngampel District Kendal Regency.

Methods: The method of the research was descriptive. The population of the reasearch there were 40 respondents, the sampling technigue used total sampling. The data were collected with questionnaires. Than, the data were tabulated, calculated, presented and provide in the form of narration and diagram.

Results: The result of the research showed that Mother's knowledge about The Preparation of The Toilet Training On The Children With The Age Toddler 1 - 3 years old in Krajan Village Ngampel District Kendal Regency was sifficient (46,7%).

Conclusion: Can it was expected that the health provider can increase the mother's knowledge about the readines of toilet training by giving them health education about the growth of children especially about toilet training. For mother was children in the age toddler (1 - 3 years old), they need to increase the guidance and assistance so that they can implement suitable toilet training to the expectation.

Keyword : *Knowledge, Readiness of Toilet Training, Toddler (1 – 3 years old).*

BACKGROUND

Health development as a part of human development is conducted through child health development as early as possible. This effort is done since the pregnancy to the age of five year in order to keep the conducive environmental situation due to the qualified life to get the optimum physical, psychological and emotional health (Hidayat, 2009:6).

Children developmental phases are divided into: infancy (new born to 1 year old), toddler (1-3 years old), pre-school (3-6 years old), school age (6-10

years old), pre-adolescence (10-12 years old), adolescence (10-19 years old) (Nursalam, 2008: 34)

Toddler (12-36 months old) is the phase in which the children are anxious in job and how to control others through anger, refusal and stubborn and also a very important phase to reach intellectual growth and development optimally (Wong, 2004: 757). This phase is the shifting phase from belief and unbelief to autonomy phase evidenced by the independency in controlling her/his body, the increasing of language ability and also becoming an anal phase where children can control their defecation and urination. The satisfaction is in defecation, they show their egoism and narcissism. The children are learning in sanitary exercise (Hidayat, 2009: 29).

Early toilet training can result in effective training. The good model will last to the adolescence. Toilet training is a good way to train the children in defecation and urination, especially for personal hygiene if it is in the right time that is in 1-3 years old. It is not an easy thing because it is the biggest duty in this phase. Defecation and urination on children need good preparation physically, psychologically and intellectually in order to control it independently (Hidayat, 2009: 62).

According to Sigmund Freud as cited by Sunaryo (2004: 2) it is said that toddler is in anal phase signed by satisfactory and unsatisfactory of elimination function that is egocentric.

It is expected that toilet training is an impulse and instinct response of stress release. The success of toilet training is influenced by the children and family readiness; physically, psychologically and intellectual. Physical readiness is the ability of the children to sit, scout and stand up; psychological readiness is the ability of children to have comfortable feeling in order to control and concentrate during defecation and urination. Intellectual readiness is shown in defining defecation and urination and when it will be, so that it is found self control (Hidayat, 2009: 64).

The failure of toilet training process is influenced by some factors; they are lack of knowledge, social economic and the relationship between mother and children. However, the most common problem is strict rule of parent that influences children's personality. The children tend to be stubborn and mean (Hidayat, 2009: 65). It is the result of depression because of inappropriate urination. The more depressed the children, the more difficult to control urination and defecation because they are more afraid to the parent's anger (Kiddieadm, 2011 :5).

OBJECTIVE

The objective of the study is to find out the description of mothers' knowledge on toilet training in toddlers in Krajan, Winong village, Ngampel sub district, Kendal regency's.

METHODS

The research was descriptive study with cross sectional approach. The population was mothers with toddlers in Krajan, Winong village, Ngampel Sub District, Kendal Regency, they are 40 respondents. Sampling technique used was

total sampling because the population was less than 100. This research was conducted in Krajan, Winong Village, Ngampel Sub District, Kendal Regency. To find out the parents' knowledge about the readiness of toilet training it was used questionnaire containing 20 items with "yes" or "no" questions. For favorable answer ("yes") it was scored 1 and for unfavorable answer ("no") it was scored 0. The validity value was 0.540-0.924, it showed that r value is greater than r table that is 0.444. It showed that the questions in the questionnaire were valid. The coefficient reliability was 0.944, it showed that the statements were reliable because it was less than the constant value (0.6)

RESULT AND DISCUSSION

Characteristics of Respondents

Age

Most respondents are in the age 20 – 29 years old; they are 19 respondents (63.3%) of 30 respondents. They are in reproductive age that it is easier to get new information. According to Singgih (2001:99) it is stated that the older is someone is the better in mental development, but in certain period the mental development process is not as fast as in teenagers. However, Notoatmodjo (2003: 76) states that the age is related to the knowledge. Respondents who are in reproductive age are easier to get new information than the younger or the older ones. Age is one of the characteristics that has correlation with health education, the older is someone, the broader is the knowledge that makes them more focus. They learn from their experiences. It can be concluded that age will influence one's knowledge; the older they are, the more knowledge and experience they have. This theory is also supported by Harmain (2011: 37) in his research entitled "*Hubungan Pengetahuan Dan Perilaku Ibu Tentang Stimulasi Toilet Training Dengan Kemampuan Toilet Training Pada Anak Usia Toddler*". In his research he stated someone will get older, however knowledge will not be better without a lot of new information.

Education

Most of the respondents are Junior High School graduates with enough knowledge; they are 14 respondents (46.7%). It really influences the ability to get new information about toilet training. Limitation in understanding new information makes them get partner during the research. It is supported by Harry (2006: 35), he stated that education influences the level of understanding of new information they get; the higher the education level, the better the knowledge is. For the case, even the education of the respondents is in medium level, their knowledge is in the average and good level. How someone gets the new information is influenced by the psychological maturity (Notoatmodjo, 2003:49). Better understanding of information, especially information about toilet training in toddler, can make it easier to apply. This theory is supported by Permanasiwi in her research entitled *Gambaran Pengetahuan dan Sikap Ibu tentang Toilet Training pada Anak Usia Pra Sekolah*. She stated that mothers' knowledge is supported by education level.

Job

Most of the respondents are house wife; they are 12 respondents (40.0%) and the others, 12 respondents (23.3%) are farmer. Their job as a house wife influences their knowledge because of the limitation of information they get. Domestic activities make them busy and do not have much time to improve their knowledge about toilet training in toddler through newspaper or electronic devices.

This theory is supported by Juwita (2012: 39) in her research entitled *"Hubungan Pengetahuan Dan Pekerjaan Ibu Dengan Pelaksanaan Ibu Dalam Toilet Training Pada Anak Usia Toddler"*, she stated that the busier the parents are, the less attention they pay to information that influences their knowledge.

Univariate Analysis

Mothers' Knowledge on toilet Training in Toddlers

From the research on mothers' knowledge on toilet training in toddlers to 30 respondents, it was found out that from 20 items that describes the mothers' knowledge on toilet training readiness in toddlers shows that 12 respondents (40%) have good knowledge, 14 respondents (46.7%) have average knowledge and 4 respondents (13.3%) have less knowledge. This result shows that the knowledge of mothers is average as influenced by some factors. It is supported by Notoatmodjo (2003: 48) that knowledge is the result of knowing something and it is a result of listening and observing.

CONCLUSION AND SUGGESTION

From the research, it can be concluded as follows: 1) The most respondents are 20 – 29 years old that is 19 respondents (63.3%) and the others, 11 respondents (36.7%) are 30 – 39 years old, 2) Most of the respondents are Senior High School graduates, they are 14 respondents (46.7%), the second category is Senior High School graduates, they are 9 respondents (30.0%), the third one is University graduate, they are 4 respondents (13.3%) and the least is Diploma graduates, they are 4 respondents (13.3%), 3) Most of the respondents are house wife, they are 12 respondents (40.0%), then 11 respondents (36.7%) are labor and 7 respondents (23.3%) are farmers, 4) For the knowledge, most of the respondents have average knowledge, they are 14 respondents (46.7%), 12 respondents (40.0%) have good knowledge and 4 respondents (13.3%) have less knowledge.

It is suggested that mothers can be more active to improve their knowledge especially on toilet training in toddler through newspaper or electronic devices so that toilet training can be applied easily and correctly.

REFERENCES

- Arikunto. S. (2010). *Prosedur Penelitian (Suatu Penelitian Dan Praktik)*. Jakarta : Rineka Cipta.
- Cahyadi, A. (2007). *Masalah Pelatihan Buang Air Besar*. Retrieved from <http://www.medicastore.com>, accessed on March 22nd, 2013.

- Harry (2006). *Faktor-Faktor Yang Mempengaruhi Ibu Terhadap Kesiapan Ibu Tentang Toilet Training di Kelurahan Jayaraya Surabaya*. Retrieved from <http://digilib.unimus.ac.id>, accessed on May 30th, 2013.
- Hermain. (2011). *Hubungan Pengetahuan dan Perilaku Ibu Tentang Stimulasi Toilet Training Dengan Kemampuan Toilet Training Pada Anak Toddler*. Retrieved from <http://perpusnwu.web.id>, accessed on May 30th, 2013.
- Hidayat, A. A. (2008). *Riset Keperawatan dan Teknik Penulisan Ilmiah*. Jakarta : Salemba medika.
- Hidayat, A. A. (2009). *Pengantar Ilmu Keperawatan Anak 1*. Jakarta : Salemba Medika.
- Icha, K. (2007). *Toilet Training*. Retrieved from <http://www.amafamily.blogspot.com> , accessed on March 26th, 2013.
- Juwita, S. (2012). *Hubungan Pengetahuan Dan Pekerjaan Ibu Dengan Pelaksanaan Ibu Dalam Toilet Training Pada Anak Usia Toddler di Desa Donohudan Kecamatan Ngemplak Kabupaten Boyolali*. Retrieved from <http://www.perpusnwu.web.id> accessed on May 30th, 2013.
- Kholid, A. (2012). *Promosi Kesehatan Dengan Pendekatan Teori Perilaku, Media Dan Aplikasinya*. Jakarta : Rajawali Press.
- Kiddieadm. (2011). *Toilet Training Pada Anak*. Retrieved from <http://www.kiddiecarecentre.com> accessed on March 16th, 2013.
- Mubarak, W. (2007). *Promosi Kesehatan Sebuah Pengantar Proses Belajar Mengajar dalam Pendidikan*. Yogyakarta : Graha Ilmu
- Mueser, A. M. (2007). *Panduan Lengkap Perawatan Bayi dan Anak*. Jogjakarta : Diglossia Media.
- Mui, A. (2008). *Penyebab Anak Ngompol*. Retrieved from <http://www.infoibu.com> accessed on March 20th, 2013 .
- Notoatmodjo, S. (2003). *Pendidikan dan Perilaku Kesehatan*. Cetakan pertama. Jakarta : Rineka Cipta.
- Notoatmodjo, S. (2010). *Metodologi Penelitian Kesehatan*. Jakarta : Rineka Cipta.
- Nursalam, R. (2008). *Asuhan Keperawatan Bayi dan Anak (Untuk Perawat dan Bidan)*. Jakarta : Salemba Medika.
- Nursalam, R. (2011). *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan*, Edisi II. Jakarta : Salemba medika.
- Nuryanti, L. (2008). *Psikologi Anak*. Jakarta : Indeks.
- Permanasiwi. (2010). *Dengan Judul Gambaran Pengetahuan dan Sikap Ibu Tentang Toilet Training Pada Anak Usia Pra Sekolah*. Retrieved from <http://perpusnwu.web.id> accessed on May 30th, 2013.
- Purwodarminto. (2003). *Kamus Besar Bahasa Indonesia*. Jakarta : Balai Pustaka.
- Riyanto, A. (2011). *Aplikasi Metodologi Penelitian Kesehatan*. Yogyakarta: Nuha Medika.
- Setiadi. (2013). *Konsep Praktik Penulisan Riset Keperawatan*. Edisi Kedua. Yogyakarta : Graha Ilmu.
- Singgih, S. (2007). *Mengolah Data Statistik Secara Profesional*. Jakarta : PT Elex Media Komputindo
- Sudrajat, A. (2008). *Pengaruh Lingkungan Terhadap Individu*. Retrieved from <http://www.akhmadsudrajat.com> accessed on March 23rd, 2013.

- Sugiyono. (2012). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: CV. Alfabeta.
- Suharsimi, A. (2006). *Prosedur Penelitian : Suatu Pendekatan Praktik*. Jakarta : Rineka Cipta.
- Sunaryo. (2004). *Perkembangan Anak Usia Toddler*. Retrieved from <http://www.sigmundfreudchangingminds.org> accessed on March 23rd, 2013.
- Sutjiningsih. (2004). *Tumbuh kembang anak*. Jakarta : EGC.
- Wasis. (2008). *Pedoman Riset Praktis Untuk Profesi Perawat*. Jakarta: EGC.
- Wawan dan Dewi M. (2010). *Teori & Pengukuran Pengetahuan, Sikap dan Perilaku Manusia*. Yogyakarta : Nuha medika.
- Wong, D. L. (2003). *Nursing Care Of Infant and Children*. United States Of America : Mosby-Year Book.
- Wong, D. L. (2004). *Pedoman Klinis Keperawatan Pediatrik*. Jakarta : EGC.
- Yesie. (2007). *Toilet Training Supaya Anak Tak Bikin Pusing*. Retrieved from <http://yesie.multiply.com> accessed on March 20th, 2013.

CORRELATION BETWEEN KNOWLEDGE OF MOTHERS WITH COMPLETE BASIC IMMUNIZATION STATUS IN INFANTS

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ABSTRACT

Background: Indonesia has developed an immunization program since 1974 in order to control the diseases that can be prevented by immunization. There are five types of basic immunization for children before the age of 12 months, namely BCG, Polio, Hepatitis B, DPT, and Campak. Results of Basic Health Research (Riset Kesehatan Dasar) in 2010 showed the national rate of complete immunization coverage reached 53.8%. Previous studies have identified a family knowledge as one of the factors that affect the status of immunization.

Purpose: This study aimed to determine the correlation with the mother's knowledge infant immunization status.

Method: This research is a descriptive correlative by design cross sectional. The population of this study was the mothers with children aged 9-12 months in the Village of East Mamburungan total 29 persons. Samples were taken by total sampling. Collecting data using a questionnaire with alpha Cronbach of 0,86. Data were analyzed using by Mann-Whitney test with a trust level of 95%.

Result: Majority (41.8%) of respondents have sufficient knowledge level, 38.4% of respondents have a good knowledge, and only a small proportion (19.2%) have less knowledge level. Complete/full immunization status of 40.4% and 59.6% incomplete immunization. Mann_Whitney test produce P value = 0.755.

Conclusion: Good knowledge or sufficient immunization does not guarantee complete immunization status in children. Other factors assumed to affect the child's immunization status is the conviction. Therefore advised to provide education to the community through an approach to community / religion leaders without decreasing the health education. This study proves there is no correlation between knowledge of mother with infant immunization status.

Keywords. basic immunization, knowledge

BACKGROUND

Improving the quality of human life in a country has been set globally in the Millennium Development Goal's (MDG's). Among the MDG's goal is to reduce 2/3 child mortality by under the age of five in 2015. Indicators achievement of these objectives are child mortality rate, infant mortality rate, and coverage of complete/full immunization status in children aged less than one year (Depkes RI, 2011). In this case, infant mortality rate became the main parameters of public welfare measures. Unfortunately, the infant mortality rate in Indonesia is still high and categorized the highest among ASEAN countries.

Immunization is the most effective efforts to reduce morbidity and mortality due to infectious diseases in infants and toddlers. Through the immunization program development is expected to control the disease by immunization. The success of eliminating smallpox disease with smallpox immunization is the beginning of the success of immunization. Immunization Development Program started in 1974 by giving BCG, DPT and TT. Furthermore, polio vaccine developed in 1980 and the measles vaccine in 1982.

Immunizations given to infants aged 0-11 months. There are five types of basic immunization in infants; namely BCG vaccine to prevent tuberculosis, polio vaccines to prevent disease flaccid paralysis, hepatitis B vaccine to prevent hepatitis B, DPT vaccine to prevent diphtheria, pertussis, and tetanus, and measles vaccines to prevent measles. Completeness basic immunization status can be seen from measles immunization coverage. It is because measles vaccine given at the end or after the four other vaccines are given. The achievement of complete/full basic immunization coverage in infants known as the Universal Child Immunization (UCI). A region have reached the target UCI if > 80% of infants in the region has been fully immunized.

Realizing the significant role of basic immunization for health and welfare of the society, the government continues to pursue the achievement of completeness basic immunization status in infants. In 2010, the government launched the National Immunization UCI Acceleration Movement 2010-2014. The Target of the movement is increased UCI coverage throughout the region/village gradually, ie 80% in 2010, 85% in 2011, 90% in 2012, 95% in 2013, and 100% in 2014. Evaluation of the movement in 2015 shows that the UCI target has not been achieved. Although the basic immunization coverage has improved in many regions, but there are many areas still below 80%. East Kalimantan Province was included in the area with complete basic immunization coverage which is low 72.86%; while Tarakan City has reached 88.52% in December 2013 (SDKI, 2013). However, some villages are not able to achieve the UCI target.

The research of Makamban, Salmah, and Rahma (2014) identifies the level of education, occupation and parity have a significant correlation to the basic immunization coverage; mother's knowledge, officer's role, and family support has no correlation with the basic immunization status of infants. In contrary, the research Wardana (2011) concluded that mother's knowledge is the main factor that affecting the status of basic immunization in infant. The same results were obtained in Albertina, et al (2009), that the mother's knowledge has a significant relationship to the infant immunization status. The study also identifies the reasons incompleteness infant immunization status is that parents do not know the immunization schedule.

Misperception about immunization is a factor inhibiting the immunization program. The Examples of misperception about immunization in society is that immunizations can cause autism, polio vaccine caused paralysis, and or substances in the vaccine is unsafe and contrary to certain religious beliefs. In fact, many people said that the body can resist the germs naturally from the environment naturally so that it does not require immunization (Kartasamita, 2015).

OBJECTIVE

East Mamburungan is one of the villages in Tarakan has difficulties every year to achieving complete basic immunization status in infants. Counseling by local health workers can not increase the achievement completeness of basic immunization status. Until now there has been no research to identify the cause of the incompleteness of infant immunization status in the region. The aim of the study to determine the relationship between the mother's knowledge with infant immunization status.

METHODS

This type of research study is a descriptive correlative with cross sectional approach. The population study was the mothers who have children aged 9-12 months in East Mamburungan village. The number of population for this study 29 persons. Samples taken by total sampling. Sample criteria include 1) Mothers with infant aged 9-12 months, 2) Stay in East Mamburungan village, 3) Infant and his mother stayed at home, and 4) Willing to become respondents. This research was conducted in the East Mamburungan Village, District East Tarakan. Implementation of the study lasted for five weeks start from January 26 to February 28, 2015. All respondents can participate in this study and provide the required information.

Mother's knowledge level about basic immunization in infants was measured by using a structured questionnaire. This research instruments adopted from V Lind (2010) which has been modified by Arum (2013). The test results indicate that the instrument is valid and reliable instrument to use with Cronbach alpha of 0.86. Basic immunization status is known by observation document Kartu Menuju Sehat (Towards Health Card) and or information provided by the infant's family. Data were obtained by interview and document observation. Analysis of the relationship/correlation with the mother's knowledge of basic immunization status of infants using the Mann-Whitney test with a confidence level of 95%.

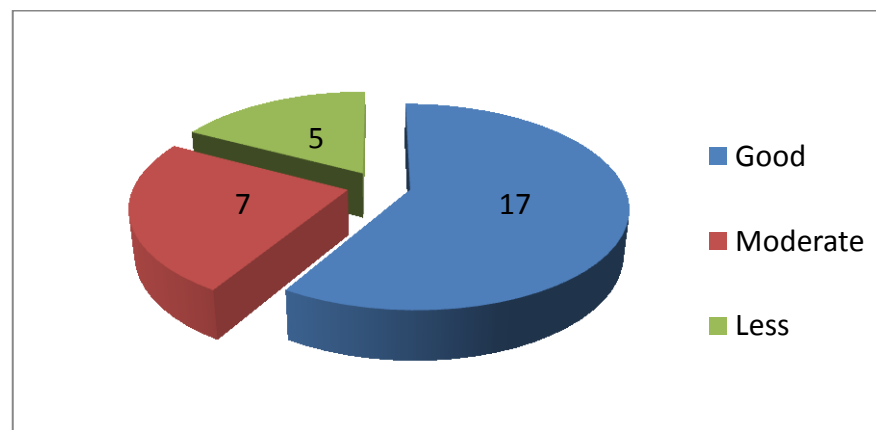
RESULT

Table 1 : Characteristics of respondents

| Characteristics | Criteria | Frequency | Percentage | Number |
|---------------------------|--------------------|-----------|------------|--------|
| Education | Primary School | 7 | 24.1 | 29 |
| | Junior High School | 8 | 27.6 | |
| | Senior High School | 11 | 37.9 | |
| | College | 3 | 10.4 | |
| Occupation | Housewife | 15 | 51.7 | 29 |
| | Farmer | 11 | 37.9 | |
| | Private | 3 | 10.4 | |
| Religion | Christian | 2 | 6.9 | 29 |
| | Islam | 27 | 93.1 | |
| Read/follow of counseling | Ever | 22 | 75.9 | 29 |
| | Never | 7 | 24.1 | |

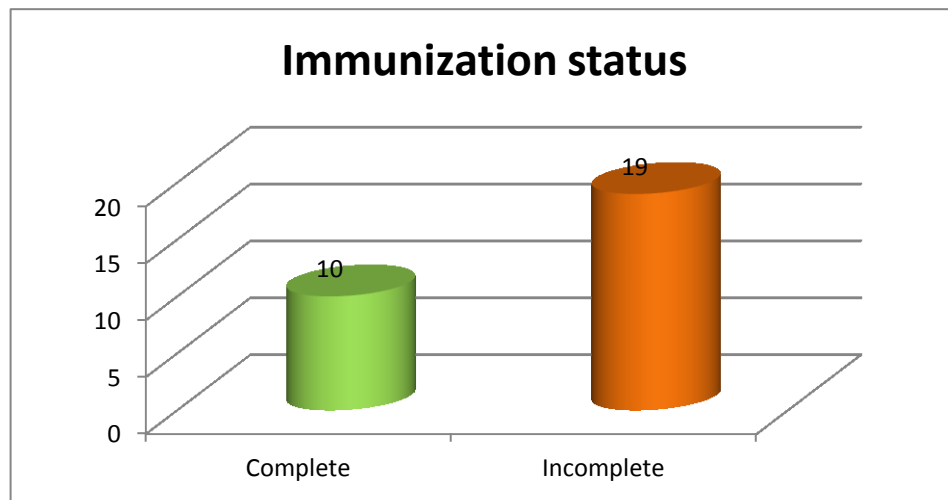
The table above indicates that the respondents educational level of this study is quite good mostly high school is 11 persons (37.9%) and only 7 people (24.1%) of respondents with primary school. The rest, 8 people (27.6%) of respondents with secondary education level and 3 people (10.4%) of respondents undergraduate. Most of the respondents in this study were relatively the same type of work. There are 15 people (51.7%) of respondents do unemploye or housewives, 11 people (37.9%) farmer, and only three people who worked as a trader. Respondents religion is homogeneous which is Muslim 27 persons (93.1%) and only 2 people are Christian. The majority respondents had a history of knowing about the information of basic immunization program in infants by reading or attend the counseling about it 21 people (72.4%) and only 7 people (27.6%) who have not read or attend counseling.

Diagram 1. Level of Knowledge about Basic Immunization



Secondary education upward is considered have better cognitive than primary education, so the researchers assume that the respondents of this study generally are educated and have good knowledge about basic immunization in infants. It is proved by the data in the table which shows that most respondents have good knowledge of basic immunization in infants is 17 people (58.7%). Respondents with less knowledge about basic immunization only 5 people (17.2%), the remaining respondents with sufficient knowledge is 7 people (24.1%). It is understandable considering that most respondents have a secondary education level upward. Knowledge of basic immunization is generally obtained through health education conducted by medical workers in the area. It is prove by the acknowledgment of the most respondents that had read and or attend basic immunization in infants.

Chart 1. Basic Infant Immunization Status



The Chart showed that complete immunization coverage in infants in the East Mamburungan Village is still low. Only 10 of 29 infants (34.5%) who received complete basic immunization, the rest are 19 infants (65.5%) who did not receive complete basic immunization. The infant opportunity to get a complete basic immunization services actually wide open considering the parents have good education, have good knowledge about basic immunization program, good facilities and affordable health care.

Table 2. Different test 2 Independent Samples.

| | Education level of respondents | Read/follow health educatin | Knowledgede level about basic immunization |
|-----------------------------------|-----------------------------------|--------------------------------|--|
| Mann-Whitney U | 91.000 | 69.500 | 89.000 |
| Wilcoxon W | 281.000 | 259.500 | 279.000 |
| Z | -.192 | -1.510 | -.312 |
| Asymp. Sig. (2-tailed) | .847 | .131 | .755 |
| Exact Sig. [2*(1-tailed Sig.)] | .875 ^b | .247 ^b | .804 ^b |

Different test independent samples using Mann-Whitney to determine the relationship of mother's knowledge about immunization program with the status basic immunization in infants. Based on the table above, $p > \alpha$ (0.05) for education level category, history attending counseling of basic immunization, and the knowledge level of mother's about basic immunization. This gives conclusion that there was no significant relationship between the education level, history attending counseling, and the knowledge level of the status of basic immunization in infants.

DISCUSSION

Knowledge is the result of knowing that it is possible after the person doing the sensing against a specific object through the sense of sight, hearing, smell, taste and touch (Notoatmodjo, 2003). Knowledge of basic immunization obtained after someone saw, read or listen to the information about basic immunization through various media. Recipient of information is affected by two main factors, namely source factors and recipient factors. Sources of information at least connected with quality and quantity of receiving information, means and medium of delivery, and the supporting structure information. Recipient factors related to prepared to receive the information and supporting structure receiving information is interests, beliefs, values, and social and cultural.

Basic immunization program has been developed even be the principal program within the health care system as a preventive effort against diseases by immunization. Various forms, methods and medium to deliver information about basic immunization was carried out. In such conditions society must have a good knowledge; but the results of this study showed the opposite situation. The achievement of complete basic immunization coverage is still low as a proof. It is possible, because in the health behaviors context not everyone who knows automatically willing to adopt healthy behaviors. In this case a good public knowledge about basic immunization is not accompanied by efforts to get immunization services. According to Notoadmojo (2009), application of the concept from knowing to willing and able, to be implemented if supported by external factors that influence the situation outside himself, which is, social support, the available facilities, and infrastructure support.

In this study, mother's high educational background is not correlated to the basic immunization status of infants. It is contrary to the research of Thaib, et al (2013), Albertina, et al (2009) and Makamban, Salmah, Rahma (2014) concluded that there is a correlation between the level of education of the status of basic immunization of infants with moderate relationship strength. The level of education is positively correlated to the knowledge of a person. Majority of respondents have a good knowledge of basic immunization in infants with a good level of education. increasing knowledge about basic immunization supported by a history of reading and or attending health education. Nearly all of respondents had read and or attend the health education about basic immunization.

Results of Basic Health Research in 2010 showed a tendency the higher level of education and economic status of the family will be higher the basic immunization coverage. It supports the assumption that education factor give contribution to the achievement of the immunization program. Low achievement of the basic immunization program in this study is not solely cause by low education level of respondents. Figures 48.3% of respondents with high school education and undergraduate, 27.6% junior high school education showed that respondents were fairly good education. Thus suspected there are other factors that affect the ability of the mother to get basic immunization services for the baby. The differences in study results are in line with research of Prayogo (2012) which showed no significant correlation between level of education and completeness of basic immunization baby. This may be understandably because of different region and characteristics.

Mother willingness to get basic immunization services for infants reflects his health behavior. The higher education level should be higher and better health knowledge and behaviors, including in providing basic immunization for infant. Research of Idwar (2009) concluded that the infant immunization status tends to be better if the mother's education level is higher. Educated people have a better understanding of the need for prevention of disease and have a higher awareness towards health issues. The study identifies babies opportunities to get basic immunization services 2,215 times for maternal high school education and junior high school 0.961 mother's education or equivalent. The Differences in the results of this study with previous research indicated the existence of other factors that affect the ability of mothers to give basic immunization services for infants.

Efforts to improve immunization coverage through a complete basic education have been developed in many countries. The assumption underlying this strategy is that the baby will not be immunized properly if the parents do not get a good explanation or because they have a bad attitude towards immunization as a result of a lack of understanding (Astinah, et al., 2013). The importance of immunization as a long term investment needs to be invested to society. In this case it needs great effort and sustainable from the government and all elements of society in order to actualizing the success of the immunization program. Ali and Muhammad (2008) argues that as preventive measures, immunization program should be run seriously in responding the changing patterns of disease through evaluation of health behavior and increase public knowledge.

Research of Cahyono (2008) concluded that a child could potentially higher for not get basic immunization services if the mother lives in rural areas, less educated, low knowledge, and have less access to the mass media. Village of East Mamburungan which is where the study was conducted classified as rural areas bordering the coastal and mostly the mothers as a farmer or housewife. Nonetheless, each respondent has wide access to the mass media. Health services including the provision of basic immunization is also available and affordable by any of the respondents, either through integrated service post and medical center.

Knowledge of basic immunization include immunization types, purposes and benefits of immunization, the immunization schedule, place for immunization service, the type of disease that can be prevented by immunization, unimmunized health risk, and the side effects of immunization. In this study, 75.9% of respondents have read and or attend the counseling of basic immunization. It is directly proportional to the high maternal knowledge about basic immunization but inversely with the basic babies immunization status mostly incomplete. The high level of education and knowledge of the mother did not give a positive impact on the completeness of infant immunization status. On the other hand there are respondents with low education but have sufficient knowledge of basic immunization and it has the status of a basic baby complete immunization. Thus, the level of education and knowledge is not the main factor determining the completeness of basic immunization status of infants in this study.

Research by Herlinti (2011), Rubinetta (2011), and Mursyida (2013) believes that the mother's occupation positively correlated to status of basic immunization baby. Mothers as a farmer and or housewife can be flexible with the immunization schedule which generally take place in the morning. This type of

work give flexibility to perform certain activities as well as mothers have a greater chance for the baby to get basic immunization services. In this study, the majority of respondents worked as housewives and farmers so as to allow the mother to bring the baby to get basic immunization services; moreover a source of services available in the area. Unfortunately, this study showed different results. This reinforces allegations of other factors that determine the status of basic immunization baby.

Analysis of the correlation mother's knowledge about immunization program with basic infant immunization status was obtained $p = 0.755$, which means there is no correlation between the two variables. Results of this study differs from previous studies. In this study the factors of education, occupation, history of reading or attending the counseling and funds, as well as the level of mother's knowledge can support the baby's chances of getting basic immunization. However, it is not enough to realize the expectations of the program. Further observations of the respondents characteristics gave an idea that religious factors have a correlation to the ability of the mother to give immunizations for infants. Most respondents (93.1%) is Muslim and almost entirely a congregation of boarding schools in the region. East Mamburungan Village is known as one of the basis of certain Islamic groups. Characteristic differences lies in the belief that the vaccine is a substance that is prohibited by religion. By interviewing several people obtained a clue that mothers mostly do not give immunizations to infants because her husband is prohibited. Information gathered from local health authorities showed that the medical service in the region every year is always below the target program; not only immunization but also other programs such as the Family Planning, vitamin A supplementation, and giving syrup or tablet Fe.

Incomplete immunization status of infants in this study is quite varied. Babies who do not get measles immunization there are 6 of 19 infants (31.6%); not immunized DPT2/DPT3 there are 3 infants (15.8%); and did not receive any immunization contained 10 infants (52.6%). According Thaib, et al (2013), the parents common reason did not get immunization to infants is because mothers worry about the side effects of immunization. Fever and swelling of the injection is the most common complaint, known as co-occurring post-immunization. The state actually is the reaction of the vaccine been clinically predictable and generally mild. In this study, mother's knowledge about basic immunization program is quite high; thus the reason concerns the side effects of immunization can be removed. Despite this effort to improve the knowledge society through health education is still needed. Hopefully, given a rational explanation directionally with a family approach and involving community leaders will be able to overcome the maternal anxiety and erase the misperception about immunization, later can increase basic immunization coverage.

Previous research by Puspasari (2009) and Steven (2013) gives an idea that religion is not an inhibiting factor and do not affect the achievement of the basic immunization coverage. Even Andhini's study (2013) it concluded that religion can be used as a medium to improve the coverage of basic immunization program. The approach to the religious leaders as strengthener information program. The difference result of studies, with this study wisely achieve the target program,

delivering information to the public programs, especially religious fanaticism to certain doctrine requires a special strategy. The strategies are expected that society good knowledge about a health program could stimulate the ability of people to accept the program without against their beliefs.

According to Ngatim (2009), knowledge is the formation of associative thinking that connects a thoughts with another or with reality based on repeating experience without any understanding of universal causal. Forming experience knowledge from ourself or others. Besides level of education, knowledge of a person is determined by participation in training or counseling. Someone who has training or counseling would have better knowledge. Knowledge can also be obtained through the use of mass media. A person can have a good knowledge of the basic immunization program even though it has a secondary formal education. Thus, the improvement of someone knowledge gives hope for the success of the basic immunization program. This can be realized through the establishment of public awareness about the benefits of immunization for the health and welfare of children in the future.

Health education about basic immunization program with a good approach to the religious leaders and other public figures need to be improved in order to eliminate the misperception. So far, there are misinformation in the community about basic immunization. For example, is that immunization causes autism, polio vaccine can cause paralysis, and the point of view that the child does not need immunizations, because their body can resist germ naturally. This study did not explore the issue, but the information and misperceptions about immunization will threat the success of the program because it can reduce society knowledge. Previous studies have shown that the rejection of immunization program occurred due to four main factors, namely the experience, knowledge, social, cultural, and sourcing services (Widya, 2011).

According to Astinah, et al (2013), the attitude is meaningless with the mother's behavior in the immunization because of the knowledge and attitudes is correlated; where knowledge is a function of attitude that encourages someone's curiosity. Mother negative attitudes towards immunization cause mother's reluctance to took the baby to the health center to get complete immunization. Attitude is predisposes that made behavior and actions. In this case the attitude has four levels, namely receiving, responding, respect, and responsibility. At the first attitude, receiving mean that a person would and notice to the stimulus provided so that the person has a positive attitude. This research respondents actually realize that the stimulus is immunization program, important and beneficial. It is proved by the level of knowledge is high.

CONCLUSION

This study indicates the level of mother's knowledge is high but basic immunization status of infants is mostly incomplete. There is no relationship between maternal knowledge with basic immunization status of infants in the East Mamburungan Village Tarakan City. Researchers recommend to do more research on the influence of religion / belief toward the acceptance of immunization programs as well as other factors affecting the completeness of basic immunization status in the region. Efforts to improve the people knowledge who

have been implemented should be maintained and enhanced by trying new strategies approach to religious leaders and local community leaders

REFERENCES

- Albertina, et.al., (2009). Kelengkapan Imunisasi Dasar Anak Balita dan Faktor-Faktor yang Berhubungan di Poliklinik Anak Rumah Sakit di Jakarta. *Sari Pediatri*, Vol. 11, No. 1, Page : 1 – 7.
- Ali M. (2008). Pengetahuan, Sikap, dan Perilaku Ibu Bekerja dan Ibu Tidak Bekerja Tentang Imunisasi. Retrieved From: <http://library.usu.ac.id/download/fk/anak-muhammad.pdf>.
- Astinah, dkk. (2013). Determinan Kelengkapan cakupan Imunisasi Dasar. *Jurnal Keperawatan & Kebidanan Volume 1* Page:14-20.
- Arum. E. (2013). Studi Kasus : Pengetahuan Keluarga Dan Cakupan Imunisasi Dasar Lengkap Di Jambi. *Jurnal Permata Bangsa Volume 7* Page: 9-17.
- Astrianzah, D. (2011). Hubungan Antara Tingkat Pengetahuan Ibu, Tingkat Sosial Ekonomi, Dengan Status Imunisasi Dasar Lengkap Pada Balita. Retrieved From: <http://eprints.undip.ac.id/32936/1/Delan.pdf>
- Azis, I., Irmayani, & Latief, B. (2013). Faktor-Faktor Yang Berhubungan Dengan Pemberian Imunisasi Dasar Lengkap Pada Bayi Di Wilayah Kerja Puskesmas Kulo Kabupaten Sidrap. *Journal of STIKES Nani Hasanuddin Makassar Volume 2 Nomor 4 Tahun 2013*. ISSN : 2302-1721.
- Committee on Practice and Ambulatory Medicine and Council on Community Pediatrics. (2010). Increasing Immunization Coverage. *Pediatrics*;125;1295.
- Herlinti. (2011). Hubungan antara Pendidikan dan Pekerjaan Ibu dengan status Imunisasi Dasar di Puskesmas Sidorejo Pagar Alam. *Poltekkes, Palembang*.
- Heywood P, Choi Y. (2010). Health System Performance at the District Level in Indonesia After Decentralization. *BMC International Health and Human Rights*;10:3.
- Idwar. (2008). Faktor-Faktor Yang Berhubungan Dengan Status Imunisasi Hepatitis B Pada Bayi (0-11 Bulan) di Kabupaten Aceh Besar Propinsi Daerah Istimewa Aceh tahun 1998-1999. Retrieved From: <http://digilib.litbang.depkes.go.id/go.php?id=jkpkbppk-gdl-res-2000-idwar-2181-aceh&q=sikap>.
- Iskandar, L. (2009). Gambaran Pengetahuan, Sikap, Dan Perilaku Ibu Bayi Terhadap Imunisasi Dasar Lengkap Di Wilayah Kerja Puskesmas Ciumbuleuit, Kecamatan Cidadap, Kota Bandung. Retrieved From: http://repository.maranatha.edu/2176/1/0610173_Abstract_TOC.pdf
- Jani J.V., De Schacht C., Jani I.V., Bjune G. (2008). *Risk Factors for Incomplete Vaccination and Missed Opportunity for Immunization in Rural Mozambique*, *BMC Public Health* 16; 8: 161.
- Kementerian Kesehatan Republik Indonesia. (2011). Keputusan Menteri Kesehatan RI No. 482/Menkes/SK/IV/2010 tentang Gerakan Akselerasi Imunisasi Nasional Universal Child Immunization Tahun 2010-2014 (GAIN UCI 2010-2014). Retrieved From :

<http://kebijakankesehatanindonesia.net/sites/default/files/file/2011/kepmenkes/pdf>

- Lestari, W., Tjitra, E., & Sandjaja. (2009). Dampak Status Imunisasi Anak Balita Di Indonesia Terhadap Kejadian Penyakit. *Journal Media Penelitian dan Pengembangan Kesehatan Volume XIX Tahun 2009, Suplemen II*. Page: 5 – 12.
- Makamban, Y., Salmah, U. & Rahma. (2014). Faktor Yang Berhubungan Dengan Cakupan Imunisasi Dasar Lengkap Pada Bayi Di Wilayah Kerja Puskesmas Antara Kota Makassar. Retrieved From: <http://repository.unhas.ac.id/bitstream/handle/123456789/9518/>
- Mursyida. (2013). Hubungan Antara Pengetahuan dan Pekerjaan Ibu dengan Status Imunisasi Dasar pada Bayi di Desa Muara Medak Wilayah Kerja Puskesmas Bayung Lencir 2013. *Poltekkes Kemenkes, Palembang*.
- Murray P.R., Rosenthal K., Kobayashi G.S., Pfalles M.A. (2002). *Medical Microbiology*. 4Th ed. London: Mosby. P: 524-528.
- Notoatmodjo, S. (2003). *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta : Rineka Cipta.
- Notoatmodjo, S. (2010). *Promosi Kesehatan Teori Dan Aplikasinya*. Jakarta : Rineka Cipta.
- Palupi, A.W. (2011). Pengaruh Penyuluhan Imunisasi Terhadap Peningkatan Pengetahuan Dan Sikap Ibu Tentang Imunisasi Dasar Lengkap Pada Bayi Sebelum Usia 1 Tahun. Retrieved From : <http://core.ac.uk/download/pdf/12350248.pdf>
- Prayogo, A., et.al. (2009). Kelengkapan Imunisasi Dasar Pada Anak Usia 1-5 Tahun. *Sari Pediatri*, Vol. 11 No. 1. Page:15-20.
- Pusat Promosi Kesehatan Departemen Kesehatan. (2009). Informasi Dasar Imunisasi Rutin Serta Kesehatan Ibu dan Anak Bagi Kader, Petugas Lapangan, dan Organisasi Kemasyarakatan. Retrieved From : Gavi Alliance. https://agus34drajat.files.wordpress.com/2010/10/buku-informasi-imunisasi-kia-bagi-kader-petugas-lapangan-ormas_2009.pdf
- Puspasari, R. (2011). Faktor-faktor Yang Meningkatkan Cakupan Imunisasi Dasar Lengkap. Retrieved From : <http://digilib.litbang>.
- Rahmawati, A.I., Umbul, C. (2014). Faktor Yang mempengaruhi Kelengkapan Imunisasi Dasar Di Kelurahan Krembangan Utara. *Jurnal Berkala Epidemiologi*, Volume 2 Nomor 1, Page : 59-70
- Redd S.C., Markowitz L.E., Katz S.L. (1999). Measles Vaccine in Plotkin SA, Orensten WA, *Vaccine*, 3rd ed, 222 – 266. Tokyo: W Saunders Co.
- Rubinetta. (2011). *Faktor-Faktor Yang Mempengaruhi Status Imunisasi Pada Balita di Wilayah Kerja Puskesmas Bola Raja*. Retrieved From :<http://tutorialkuliah.blogspot.com/2009/05>.
- Som S., Pal M., Chakrabarty S., Bharati P. Socioeconomic Impact on Child Immunisation in the Districts of West Bengal, India. *Singapore Med J* 2010;51:406-12.
- Steven, A.R. (2013). Peran Pemerintah Daerah Meningkatkan Capaian Target Program Imunisasi Dasar. Naskah Akademik Tidak Dipublikasikan.

- Thaib, et.al. (2013). Cakupan Imunisasi Dasar Anak Usia 1-5 Tahun dan Beberapa Faktor Yang Berhubungan Di Poliklinik Anak Rumah Sakit Ibu dan Anak (RSIA) Banda Aceh. *Sari Pediatri* Vol. 14 No. 5. Page: 283-287.
- Wardana, M.K. (2011). Strategi Peningkatan Cakupan Imunisasi Lengkap; Pendekatan Promosi Kesehatan.

THE EFFECT OF MUSIC THERAPY ON HEALTH OF WOMEN DURING PREGNANCY

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ABSTRACT

Background: *Pregnancy can be a difficult period presenting physiological and psychological challenges for women (Van den Bergh et al. 2005). Many women experience considerable stress when confronted with the emotional and physical changes that occur during pregnancy. By neutralizing negative emotions, music elevates the stress threshold, harmonizes inner processes, helps patients attain of relaxation and reduces stressful situations (Sidorenko 2000).*

Methods: *In this systemic review, the used method was a mixed-method systematic review, a kind of literature review that using several types of scientific articles such as quantitative and qualitative research journals, related to the objectives and research questions. The number of studies conducted systematic reviews is 6 study by the publication of the article search engines Academic complete and Psychology and Behavioral Science Collection, Google search, EBSCO, Proquest and Sciencedirect.com with selected keywords*

Result: *explaining that music therapy make a good effect for health of pregnancy women especially for psychological stress of woman during pregnancy. The Explanation is during exposure to a stressor, the entire stress regulation system, the hypothalamus–pituitary–adrenal cortex system and the sympathetic nervous system is aflame, Four types of prerecorded music compact discs (CD) were created for this study.*

Conclusion: *Music therapy is easily used in most environments and it can be tailored to personal preferences to enhance relaxation, music therapy significantly reduced the intensity of stress, anxiety and depression in pregnant women. Music therapy is a cost-effective, enjoyable, non-invasive therapy and could be useful in creating an environment that is conducive to the well-being of the pregnant women*

Keywords: *music therapy, nursing, prenatal care, psychological health, randomized controlled trial*

BACKGROUND

Pregnancy can be a difficult period presenting physiological and psychological challenges for women (Ganong, Van den Bergh et al. 2005). Many women experience considerable stress when confronted with the emotional and physical changes that occur during pregnancy.

Anxiety and depression in pregnant women is considered a health problem similar in character to postnatal depression. Notably, antenatal psychological disturbances have been shown to affect, adversely, the well-being of the mother

and fetus. Several longitudinal studies demonstrate a strong correlation between antenatal and postnatal depressive symptoms. Women with high antenatal anxiety or stress are likely to have premature babies as well as low birth weights (Van den Bergh et al. 2005). Moreover, prenatal maternal stress is shown to affect infant development and temperament negatively (Huizink et al. 2002). When psychological problems arise during pregnancy, the safety of pharmacological treatment in terms of the risks to the fetus and the mother must be considered. In light of these risk assessments, non-pharmacological preventive intervention for antenatal stress, anxiety and depression should be considered of significant importance (Van den Bergh et al. 2005).

Music has been used for healing for hundreds of years. Music, it is claimed, maintains harmony between the body and soul and is an effective therapeutic modality within holistic or integrative medicine. (Huang, 2008) By neutralizing negative emotions, music elevates the stress threshold, harmonizes inner processes, helps patients attain an advanced state of relaxation and reduces stressful situations (Sidorenko 2000). In addition to altering mood, music stimulates the imagination and autonomic responses at the thalamic level, where feelings and emotions are transmitted to the cerebral hemisphere. Furthermore; it is believed that music influences the brain network that determines emotional experience via the limbic system. (Djohan, 2006) The aesthetic pleasure received by the right brain can release endorphins from the pituitary gland, thereby decreasing the concentration of adrenocorticotrophic hormone in the blood (Sidorenko 2000). Music changes the interaction of the thalamus and the reticular activating system (RAS) and effects emotions, body musculature and autonomic functions such as blood pressure, heart rate and respiration rate. Thus, the hypothesis of this study was that music induces relaxation and decreases anxiety, stress and depression in women during their pregnancies. Similarly, soothing music with a flowing, lyrical melody, simple harmony, soft tonal colour and easy rhythm (roughly 60–80 beats/ minute) can stimulate a relaxation response and facilitate emotional homeostasis in adults and children (Hayes et al. 2003).

Researchers support the specific wellness advantages for music therapy applied in pregnancy and childbirth on anxiety reduction and stress, as well as providing pain management during childbirth. One small study involving 11 women listened to preselected music throughout labour and delivery, with the music therapist in attendance, compared with seven women who accepted regular hospital routine reported a significant reducing anxiety and level of pain or discomfort during childbirth. Browning (2000) interviewed 11 women who participated in a music therapy exercise. All women reported that the music assisted with relaxation and distracted them from the pain. A recent study which applied music therapy to 22 women during cesarean delivery showed a significantly lower anxiety and a higher level of birth satisfaction during cesarean delivery (Chang & Chen 2005).

For high-risk pregnancies, music therapy also demonstrated a powerful anti-stress effect. Sidorenko (2000) applied medical resonance therapy music to 22 high-risk pregnancy women and showed a reduction in anxiety according to the Spilberger scale. However, few studies have examined the effects of music therapy on the psychological health of normal or low-risk pregnant women. Most

music therapy studies have used a small sample design, typically involving fewer than 100 study participants and lacked adequate follow-up periods (Evans 2002). Thus, a controlled experimental design with appropriate sample size is needed to further examine the effects of music therapy on women's psychological health during pregnancy.

In spite of all the opinions of the above, how much influence it has never been measured with certainty to the health of pregnant women. Music can be applied to pregnant women other than low cost, easy to do and fun, listening to music can be done by anyone, anytime and anywhere can be at home or in the hospital during hospitalization. This has led to research on "The Effects of Music Therapy on women health during pregnancy"

OBJECTIVE

1. To know the effect of music therapy on health of woman during pregnancy
2. Determining the effect of music therapy on health of woman during pregnancy
3. Determining kinds of the best music for pregnancy women

METHODS

In this systemic review, the used method was a mixed-method systematic review, a kind of literature review that using several types of scientific articles such as quantitative and qualitative research journals, related to the objectives and research questions. The mixed methods approach to conducting systematic reviews is a process whereby (1) comprehensive syntheses of two or more types of data (e.g. quantitative and qualitative) are conducted and then aggregated into a final, combined synthesis, or (2) qualitative and quantitative data are combined and synthesized in a single primary synthesis. Mixed methods reviews represent an important development for all individuals involved in evidence-based health care. That being said, Sandelowski et al (2012). The criteria for inclusion in this article are all studies that discuss the influence of music therapy on women's health during pregnancy. The number of studies conducted systematic reviews is 6 study by the publication of the article search engines Academic complete and Psychology and Behavioral Science Collection, Google search, EBSCO, Proquest and Sciencedirect.com with selected keywords. Articles that there are similarities in each search retrieved one of them and analyzed. Literature search limited to the 2005-2015 edition which can be accessed full text in pdf format. The selected article is the result of research in the form of RCTs on the effect of music therapy on pregnancy. Participants or respondents were included in the peer-reviewed journals are pregnant women over 28` weeks gestation on study of 60 people. In the only study to study the effect of music therapy on women's health during pregnancy is based on the quasi experiment design group pretest and posttest control group design. Articles that match the criteria are then analyzed using a critical appraisal tool appropriate for RCT research results to assess the quality of research. The data from the findings that have been analyzed is then extracted and grouped similar then the data that has been extracted earlier triangulation, are discussed and summarized to answer the purpose.

Inclusion criteria are criteria which the subject of research represents a sample which qualify as samples. The inclusion criteria of this study are:

- 1) Pregnant women with gestational age above 28 weeks
- 2) Pregnant women over 18 years.
- 3) Ability to communicate well.
- 4) Be willing to become respondents in this study.
- 5) Willing to take music therapy 2 times in 1 week.
- 6) Do not have a hearing loss.

Exclusion criteria are the criteria by which research subjects may not represent the sample because it does not qualify as research samples. Exclusion criteria in this study are:

- 1) Pregnant women are severe headaches.
- 2) Pregnant women who are depressed.

RESULTS

From the literature, explaining that music therapy make a good effect for health of pregnancy women especially for psychological stress of woman during pregnancy. The Explanation is during exposure to a stressor, the entire stress regulation system, the hypothalamus–pituitary–adrenal cortex system and the sympathetic nervous system is aroused (Bennett, 204, Birgit, 2015).

Four types of prerecorded music compact discs (CD) were created for this study. Each CD contained approximately 30 minutes of music consisting of lullabies (e.g. Brahms' lullaby, Twinkle-Twinkle Little Star, Gradle song), classical music (e.g. Beethoven: for Elise, Debussy: Preludes I Livre VIII, La fille aux cheveux de lin and Kreisler: Liebesfreud), nature sounds (e.g. Another Day, Friendly Natives and Tropical Mystery) or crystal music performing Chinese children's rhymes and songs (e.g. Little Honey-Bee, Doll Country, Jasmine). The tempo of the music was selected to mimic the human heart rate (60–80 beats/minute (Tomy, 2007, Valerie L, 2014)

The effect of music therapy are :

1. Help to learn enjoy the songs and melodies
2. Help communicate well
3. Helps reduce stress in pregnant women
4. Improve hearing ability
5. Enhance Motion Response Capability
6. Forming A Personality

DISCUSSION

Complementary and alternative therapies are the most common choices for pregnant women attempting to avoid the side-effects associated with medication. Using music therapy to decrease psychological stress during pregnancy is therefore an appropriate alternative therapy. In early nursing history, Florence Nightingale used music as a nursing intervention (Biley 2010). As an effective and non-pharmacological therapeutic modality, music can assist nurses in creating a healing environment that promotes physical, emotional and spiritual well-being. These experimental results indicate that music therapy is an effective treatment option that promotes psychological health during pregnancy.

Experimental results also indicate that listening to music daily during pregnancy generates considerable health benefits.

Music therapy is easily used in most environments and it can be tailored to personal preferences to enhance relaxation.

CONCLUSION

In summary, music therapy significantly reduced the intensity of stress, anxiety and depression in pregnant women. Music therapy is a cost-effective, enjoyable, non-invasive therapy and could be useful in creating an environment that is conducive to the well-being of the pregnant women.

REFERENCES

- Biley FC (2010) *The effects on patient well-being of music listening as a nursing intervention: a review of the literature*. Journal of Clinical Nursing
- Birgit Derntl, Jacqueline Krajnik, (2015) *Stress matters! Psychophysiological and emotional loadings of pregnant women undergoing fetal magnetic resonance imaging*. BMC pregnancy & Childbirth, Netherlands <http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer> (accessed 30 July 2015)
- Buchwald P, Moore KA, Ringeisen T. (2011). Stress and anxiety: application to education and health. Logos: Berlin;
- Bennett HA, Einarson A, Taddio A, Koren G & Einarson TR (2014) Prevalence of depression during pregnancy: systematic review. Obstetrics and Gynecology
- Butterton, Mary, 2008. *Listening to Music in Psychotherapy*. Oxford: Radcliffe publishing.
- Constance L. Bauer, LCSW, J.D., David Victorson, Ph.D., (2010) *Alleviating Distress During Antepartum Hospitalization: A Randomized Controlled Trial of Music and Recreation Therapy*, journal of women's health
- Chang MY, Chen CH, Huang KF. (2008) *Effects of music therapy on psychological health of women during pregnancy*. J Clin Nurs
- Djohan. Music (2006) *Theory and Applications* , Moulds to 2. Yogyakarta. Gramedia.
- Ganong, WF, (2005) *Textbook Medical Physiology*. Jakarta: EGC.
- Halim, S. *Mozart and therapeutic effects of music in the world of health* , 2007. Accessed 28th July 2011. Available from: <http://www.tempo.co.id/medika/arsip/012003/pus-2.html>.
- Hayes A, Buffum M, Lanier E, Rodahl E & Sasso C (2003) *A music intervention to reduce anxiety prior to gastrointestinal procedures*. Gastroenterology Nursing 26, 145–149
- Huizink AC, De Medina PR, Mulder EJH, Visser GHA & Buitelaar JK (2002) *Prenatal maternal stress, HPA axis activity and postnatal infant development*. International Congress Series 1241, 65–71.
- MacGregor, S, (2001) *Piece of Mind using the Power Subconscious for Achieving Goals*. Jakarta: Gramedia
- Sandelowski M, Voils CI, Barroso J. (2006). *Defining and Designing Mixed Research Synthesis Studies*. Res Sch 13(1).

- Sidorenko VN (2000) *Clinical application of medical resonance therapy music in high-risk pregnancies. Integrative Physiological and Behavioral Science* 35, 199–207.
- Tomy, L, 2007. Music Therapy in brain perspective. <http://www.liveconnector.com>. Accessdate: 14-7-2009.
- Van den Bergh BRH, Mulder EJH, Mennes M & Glover V (2005) *Antenatal maternal anxiety and stress and the neurobehavioural development of the fetus and child: links and possible mechanisms. A review. Neuroscience and Biobehavioral Reviews*
- Valerie L. Flax, Mekebeb Negerie (2014) *Integrating Group Counseling, Cell Phone Messaging, and Participant-Generated Songs and Dramas into a Microcredit Program Increases Nigerian Womens Adherence to International Breastfeeding Recommendations Nigeria* (Downloaded from jn.nutrition.org at EBSCOhost on June 26, 2014)
- World Health Organization (2006) *Mental Health: Depression*. Available at: http://www.who.int/mental_health/management/depression/definition/en/ (accessed 28 August 2006).

PHENOMENOLOGICAL STUDY OF TEEN'S EXPERIENCE IN DEALING DYSMENORRHEA

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ABSTRACT

Background: Dysmenorrhea is a physical discomfort or pain experienced during menstruation. Dysmenorrhea is caused by an imbalance of the hormones progesterone and the stressor. Dysmenorrhea, or menstrual pain often experienced by women. Dysmenorrhea affects an estimated 50% of women in reproductive age and 60%-85% in teenage years that resulted in the number of absences at the school, office or agency.

Objective: The purpose of this study was to describe the experience in dealing with dysmenorrhea in adolescent life.

Methods: The method used was a qualitative research method descriptive design with the philosophy of Husserl's phenomenology. Data were collected by the method of semi-structured interviews and analyzed using data analysis techniques Colaizzi. Total samples of 6 participants were recruited by purposive sampling technique.

Results: Results identified four clusters themes, namely the perception of dysmenorrhea, dysmenorrhea impact, pre-menstrual syndrome and dysmenorrhea efforts. The result showed that adolescent's experiences in dealing with dysmenorrhea are as follows: the perception of dysmenorrhea, dysmenorrhea impact, pre-menstrual syndrome and attempt to deal with dysmenorrhea.

Conclusion: Based on the results of this research was recommended to health workers to provide the information as early as possible to adolescents on dysmenorrhea and how to overcome them, to teenagers to pay attention about menstruation and dysmenorrhea as well as for further research to examine the treatment of dysmenorrhea in adolescents.

Keywords: Adolescence, Menstruation, Dysmenorrhea

BACKGROUND

Reproductive health is a state of complete physical, mental, social intact in all matters relating to the systems, functions and processes of reproduction. Reproductive health is not just freedom from disease but how a woman can have a safe reproductive life. Female reproductive organ is the organ most vulnerable and can easily become infected. Every women including teenagers have an obligation to maintain their own reproductive health by implementing a clean and healthy life behavior every day. Adolescence is a period in human life span and a shift from past childhood to adulthood. Adolescence is a phase of dynamic development in one's life. This period was marked by the acceleration of physical

development, cognitive, social and emotional. The earliest changes of physical development that began to menstruate.

According Manuaba (2002), reproductive health in women become serious enough throughout the life of a woman, as prone to exposure to the disease and is also associated with social life. Reproductive health problems in women occur because they relate to the lack of education and knowledge, early marriage, maternal mortality, reproductive disorders including menstruation, occupational health problems, menopause and nutritional problems. Menstruation experienced by women is something physiological or normal. However, often a woman during menstruation feel any sense of discomfort or pain and can cause problems.

One of the problems that can arise is dysmenorrhea. Dysmenorrhea is a physical discomfort or pain experienced during menstruation. Dysmenorrhea is caused by an imbalance of the hormones progesterone and the stressor. Dysmenorrhea, or menstrual pain often experienced by women. Dysmenorrhea affects an estimated 50% of women in reproductive age and 60-85% in adolescence that resulted in the number of absences at the school office or agency.

Dysmenorrhea can have an impact on the activity or daily activities, especially in adolescents. Dysmenorrhea can make a woman can not move normally and requires medication (Prawirohardjo, 2005). Dysmenorrhea which interfere with the activity can reduce the quality of life for women. Dysmenorrhea can cause a teen can not concentrate on studying and learning motivation decreases because of the pain felt. According to Nathan (2005), states that 30-60% of women experience dysmenorrhea, and 7-15% can not go to school or work.

According to Woo and Mc Eneaney (2010), dysmenorrhea affects the quality of life for 40-90% of women, where one of the thirteen women with dysmenorrhea do not attend work and school for 1-3 days per month. To overcome this condition can be done with pharmacological and non-pharmacological therapies. Non-pharmacological therapy to be preferred because it is safer when compared with pharmacological therapy. Non-pharmacological therapy according to Bobak, et al, (2005) for dysmenorrhea can be done by means of warm compresses, a warm bath, massase, distraction, physical training / exercise, sufficient sleep or rest, low-salt diet and increased use of natural diuretics like celery leaves.

The purpose of this study was to describe the experience in dealing with dysmenorrhea in adolescent life. Adolescence is a transition period that desperately need attention, especially on reproductive health, which in this case related to the menstrual cycle and dysmenorrhea.

METHODS

This study is a qualitative research design with a descriptive phenomenology of Husserl's philosophy. This descriptive phenomenology used to develop the structure of the life experience of a phenomenon in seeking the unity of meaning by identifying the core phenomena and accurately describe the experience of everyday life (Steubert & Carpenter, 2003). Descriptive phenomenological approach emphasizes the subjectivity of human experience which means that researchers conducted direct excavation conscious experience

and describe the phenomena without being influenced by the earlier theories and assumptions.

Stages descriptive phenomenological approach used in this study is based Spiegelberg ie bracketing and examining the phenomenon (intuiting, analyzing and describing). Bracketing performed by researchers and participants. Researchers do bracketing by avoiding personal assumptions of the phenomenon being studied.

Analyzing stage is the stage where the researcher identifies the meaning of a phenomenon that has been excavated and explored the relationship and linkages between the data with existing phenomena. The data were analyzed by citing significant then categorizes and explore the essence of the data that will be acquired understanding of the phenomenon under study.

Describing phenomenology is the stage where researchers communicate in writing and provide an overview of critical elements based on the classification and grouping of the phenomenon. Researchers can understand the depth of experience in dealing with the phenomenon of dysmenorrhea thus discovered the meaning of the participants' experience or history.

Participants in this study were teenagers in the city of Surakarta. The timing of this study of the Month November 2013 to February 2014. The sampling technique used in this research is purposive sampling technique. Purposive sampling is the selection of respondents or participants with specific considerations based on criteria and research purposes. The number of samples in this study were 6 participants. The principle of data collection is to achieve saturation of data, or no more new information is obtained (Pollit & Hungler, 2006).

Data were collected by the method of semi-structured interviews and analyzed using data analysis techniques Colaizzi. During the interview, the strategy used was open ended interview. According Moleong (2004), open ended interview can provide an opportunity for participants to fully explain their experience of the phenomenon being studied. Researchers used an interview guide that contains open questions to decipher the core question.

Triangulation of data is done with the source, which means that in this study the data triangulation is done by comparing and checking the information gained confidence. The sources of information used in this study is the mother and closest friend of the respondent.

RESULTS AND DISCUSSION

The result showed the depth interviews with participants and field notes were obtained during the interview process. From interviews with participants then analyzed and the results obtained, namely the identification of themes into four clusters, namely the perception of dysmenorrhea, dysmenorrhea impact, pre-menstrual syndrome, and efforts to overcome dysmenorrhea. From the results of this study found that adolescents who experience dysmenorrhea have the following experience: perception of dysmenorrhea, dysmenorrhea impact, pre-menstrual syndrome, and efforts to overcome dysmenorrhea.

Determination cluster theme derived from the data analysis process 6 participants. The first stage in the process of data analysis is to determine the key

words for each participant, followed by the determination of the theme. In this study, four clusters themes, namely the perception of dysmenorrhea, dysmenorrhea impact, pre-menstrual syndrome, and efforts to overcome dysmenorrhea.

Dysmenorrhea or painful menstruation is the most common symptom experienced by women of reproductive age. Along with menstrual pain is felt as cramping in the lower abdomen and can spread to the back. Dysmenorrhea is an indicator of a disturbance in the reproductive organs or any gynecological problems in women. This is consistent with the statement of the respondent's perception of dysmenorrhea is as follows:

"Uncomfortable feeling during menstruation"
(respondents 1)

"... Pain or pain during menstruation lasts all"
(respondent 2)

"... Pain during menstruation ..."
(respondent 3)

"Discomfort due to extreme pain during menstruation"
(respondent 4)

"Pain or abdominal cramps that occur during menstruation"
(respondents 5)

"Pain ... pain like cramps ... even unbearable"
(respondent 6)

The impact of dysmenorrhea may result in disruption both physically and psychologically. It is as expressed by the following respondents:

"When the pain ... take a rest ... even been absent from school"
(respondents 1)

"Should lie, do not do the activity, do not go to school"
(respondent 2)

"... Ever fainted ..."
(respondent 3)

"Just lie down, do not want to do anything, lazy"
(respondent 4)

"Moment like abdominal cramps ... could not move at all"
(respondents 5)

"Lazy, do not go to school, just wants to sleep"
(respondent 6)

It is also in accordance with the opinion of Nathan (2005), which states that 30-60% of women experience dysmenorrhea, and 7-15% can not go to school or work. Meanwhile, according to Woo and Mc Eneaney (2010), dysmenorrhea affects the quality of life for 40-90% of women, where one of the thirteen women with dysmenorrhea do not attend work and school for 1-3 days per month. According to Sharma, et al. (2008), as many as 35% of teens say do

not come to school at the time of dysmenorrhea and 5% say they come to school, but they just slept in class.

Pre-menstrual syndrome is a collection of unpleasant symptoms that occur and are related to the menstrual cycle. In general, symptoms of pre-menstrual syndrome can occur both physically and psychologically. In this study obtained statements from respondents as follows:

- "... Irritable, easily offended sometimes headache ..."
(respondents 1)
- "Dismay, appeared acne, headaches, frequent changes in mood"
(respondent 2)
- "Headache, fatigue, irritability, crying easily, sometimes cry for no reason"
(respondent 3)
- "... Breast pain, irritability, tiredness"
(respondent 4)
- "... Stomach feels bloated, appears acne, decreased appetite, anxiety, sometimes difficult to sleep ..."
(respondents 5)
- "Easily tired, easily changing feelings, suddenly sad, crying"
(respondent 6)

Efforts to overcome dysmenorrhea can be done be done with pharmacological and non-pharmacological therapies. Non-pharmacological therapy to be preferred because it is safer when compared with pharmacological therapy. Non-pharmacological therapy according to Bobak, et al, (2005) for dysmenorrhea can be done by means of warm compresses, a warm bath, massage, distraction, physical training / exercise, sufficient sleep or rest, low-salt diet and increased use of natural diuretics like celery leaves. How to cope with dysmenorrhea by Nathan (2005), is the warm bath, put a hot water bottle on the abdomen, exercise / exercise, and avoid smoking. This is consistent with the statement of the respondent about the efforts that have been made at the time felt dysmenorrhea is as follows:

- "A lot of resting, sleeping, relaxation"
(respondents 1)
- "Bath with warm water, sometimes soaking in warm water"
(respondent 2)
- "Asleep, if they were sick to drink medicine"
(respondent 3)
- "Warm compresses on the waist while sleeping"
(respondent 4)
- "Warm compress on the abdomen and waist, sleep, take medication to reduce the pain"
(respondents 5)

"Taking medication, rest, relaxation"

(respondent 6)

CONCLUSIONS

Based on the results of the study showed that teen's experience in dealing with dysmenorrhea are as follows: the perception of dysmenorrhea, dysmenorrhea impact, pre-menstrual syndrome, and efforts to overcome dysmenorrhea.

Based on the results of this research was recommended to health workers to provide the information as early as possible to adolescents on dysmenorrhea and how to overcome them, to the youth to always pay attention to menstruation and dysmenorrhea as well as for further research to examine the treatment of dysmenorrhea in adolescents.

REFERENCES

- Azwar, A. dan Prihantoro, J. (2003). *Metodologi penelitian kedokteran dan kesehatan masyarakat*. Batam: Binarupa aksara.
- Bobak, Lowdermilk, Jensen (2005). *Buku ajar keperawatan maternitas*. Alih bahasa Wijayarini, M. Jakarta: EGC.
- Cresswell, J.W. (2002). *Research design: Qualitative & quantitative research*. Alih bahasa: Jakarta KIK Pres
- Ferry E Shannon, et al (2010). *Maternal child nursing care*, Mosby elsevier. Maryland heights, Missouri.
- Lodewig, et al. (2002). *Maternal child nursing care*. Elsevier: Mosby.
- Manuaba dan Ida Bagus Gde. (2002). *Konsep Obstetri & Ginekologi Sosial Indonesia*. Jakarta: EGC.
- Moleong, L.J. (2004). *Metodologi penelitian kualitatif*. Bandung: Remaja Rosdakarya.
- Nathan, A. (2005). *Primary Dysmenorrhoea. Practice Nurse Minor Ailments*. Diperoleh 5 Maret 2013 dari <http://proquest.umi.com/pqdweb?index=65>.
- Prawirohardjo, S. (2005). *Ilmu Kebidanan*. Edisi Ketiga. Cetakan Keenam. Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo.
- Polit, D.F., & Hungler, B.P. (2006). *Nursing research: Principles and Methods*. Philadelphia: Lippincott William & Wilkins.
- Sharma, A., Taneja, D.K., Sharma, P. & Saha, R. (2008). *Problems Related to Menstruation and Their Effect on Daily Routine of Students of a Medical College In Delhi, India*. *Asia Pacific Journal of Public Health*. Diperoleh 5 Maret 2013 dari <http://aph.sagepub.com/cgi/content/refs/20/3/234>
- Steubert, H.J & Carpenter, D.R. (2003). *Qualitative research in nursing: advancing the humanistic imperative*. 3rd edition. Lippincott: Philadelphia.
- Woo, P. & Mc Eneaney, M.J. (2010). *New Strategies To Treat Primary Dysmenorrhea The Clinical Advisor*. Diperoleh 5 Maret 2013 dari <http://proquest.umi.com/pqdweb?index=6&did=2195246451>.

PROTECTIVE EFFECTS OF RED SORREL CALYX (*H. SABDARIFFA*) ON ETHANOL-INDUCED DEFICITS OF SPATIAL MEMORY AND ESTIMATED TOTAL NUMBER OF HIPPOCAMPUS PYRAMIDAL CELLS

IN CA1 AND CA2-CA3 REGIONS

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ABSTRACT

Background: Ethanol is known to increase the formation of reactive oxygen species (ROS) and to suppress antioxidant levels. Animal studies have demonstrated the neurodegeneration in hippocampus resulting from ethanol exposure. Calyx of Red Sorrel (*H. sabdariffa*) contains potent antioxidants such as polyphenol, antocyanin, and flavonoid.

Objective: The present study aimed at investigating the possible protective effects of *H. sabdariffa* on ethanol-elicited deficits of spatial memory and estimated total number of the pyramidal cells in the CA1 and CA2-CA3 regions of the hippocampus of adolescent male Sprague Dawley (SD) rats.

Methods: Thirty male SD rats aged 30 days were divided into five groups. Group 1 (K1) was given water orally and injected with normal saline intra peritoneally (ip). Group 2 (K2) was given water orally and 3 g/kg body weight of 15% ethanol (ip). Another three experimental groups (P1, P2, P3) were given different dosages of *H. sabdariffa* (0.75 g/kg bw, 1.5 g/kg bw, and 3 g/kg bw) for 90 minutes prior to the injection of ethanol. All groups were treated every day for 25 days. Spatial memory of rats was tested subsequent to the treatments using Morris water maze (MWM) protocol. The rats were afterwards euthanized, and their hippocampi were examined. Total number of pyramidal cells in CA1 and CA2-CA3 regions of hippocampus was estimated using Nv x Vref method. The data of latencies of escape acquisition and memory persistence test of MWM and the number of pyramidal cells were analyzed using one way ANOVA and continued by post hoc test whenever necessary. Statistical significance was set at the p value <0.05.

Results: The escape acquisition latency as a part of MWM memory test showed significant difference in some trials. Post hoc test of 18th trial showed significant difference between K1 and K2 (p=0,018), K2 and P1 (p=0,014), K2 and P3 (p=0,048). There were significant differences between K1 and P1 (p=0,021), K2 and P1 (p=0,014), P1 and P2 (p=0,002), P1 and P3 (p=0,006) in the 19th trial. There were also significant differences between K1 and P1 (p=0,027), P1 and P2 (p=0,029), P1 and P3 (p=0,049) in 20th trial. There were no significant difference between groups on memory persistence test and estimated total number of pyramidal cells of hippocampus in CA1 and CA2-CA3 regions.

Discussion: *H. sabdariffa* contains anthocyanins, polyphenols and flavonoids as antioxidants that are able to penetrate the blood brain barrier. Anthocyanins are neuroprotective agents to prevent and fight against oxidative stress in neuronal cells and to neutralize fragmented ROS and H₂O₂. Flavonoids can restore neuronal signaling and cognitive parameters.

Conclusion: *H. sabdariffa* may prevent the ethanol-induced deficits of spatial memory test of rats as was indicated by the results of some escape acquisition tests. There were no significant difference on memory persistence test and the number of hippocampus pyramidal cells in CA1 and CA2-CA3 regions.

Keywords: *ethanol, H. sabdariffa, spatial memory, hippocampus pyramidal cells*

BACKGROUND

Abuse or alcohol dependence is a common and serious problem in adolescents. At the end of the period of adolescent development, approximately 10% of teenagers meet diagnostic criteria for alcohol misuse. Although psychosocial consequence of alcohol misuse has been revealed, but there is still little research on the effects of alcohol neurobiology during this developmental period. Because adolescence is characterized by progressive development of the hippocampus, then these regions are particularly vulnerable to the adverse effects of alcohol abuse on adolescents¹². Animal studies have shown the existence of neurodegeneration in the hippocampus due to exposure to alcohol. With high peak doses, the damage is more meaningful and mediated by excitotoxicity. During the withdrawal, the increase in corticosteroid-induced stress occurs associated with changes in excitatory neurotransmission. Hippocampus is glucocorticoid rich receptors and specifically considered vulnerable. Thus, the human hippocampus may be more affected than other brain structures because of alcohol neurotoxic effects¹.

Exposure to alcohol induces many neuroadaptive changes in the central nervous system which has serious long-term consequences on cognitive function and decrease includes the effect of learning and memory. Changes in synaptic plasticity induced by chronic intermittent ethanol consumption plays an important role related to the effect of the use of alcohol on learning and memory function. Cellular mechanisms underlying the effects of alcohol on the central nervous system has not been fully disclosed and seems to depend on the pattern and the exposure dose of alcohol⁶³.

Animal studies showed that antioxidant of phytochemical food (diet) can stop free radicals. Among the antioxidant of phytochemical foods are phenolic compounds and polyphenols such as flavonoids and catechins in edible plants and showed potential antioxidant^{13,19}. Calix extract of *Hibiscus sabdariffa* (*H. sabdariffa*) known as Roselle tea is reported to have pharmacologic activity as a powerful antioxidant in vitro and in vivo². Anthocyanins of *H. sabdariffa* is also shown to have a protective effect against tert-butyl hydroperoxide-induced rat liver toxicity. Anthocyanins is able to stop the free radical 1,1-diphenyl-2-picrylhydrazyl and this antioxidant effect is also demonstrated by the ability of anthocyanins to reduce tert-butyl hydroperoxide-induced cytotoxicity in rat

primary hepatocytes, and its ability to weaken hepatotoxicity in rat⁸⁰. Anthocyanins are also reported to protect against DNA damage induced by tert-butyl hydroperoxide in the smooth muscle cells of rats and hepatoma cells⁴⁵. Considering that there is evidence of a strong antioxidant and antilipid peroxidation activity of *H. sabdariffa* extract and the contained compounds^{77,80,73} and because many diseases and conditions such as diabetes and aging allegedly involving lipid peroxidation and free radical emergence^{61,79}, then anthocyanins (from this plant and others) as well as Hibiscus protocatechuic acid is a potentially useful for reducing or preventing the diseases and conditions².

Memory impairment is one of the consequences of alcohol intoxication. Memory disorders will improve by stopping alcohol consumption but will increase and settle in line with continuous consumption⁴⁸. One sign of damage to the central nervous system due to alcohol consumption is reduced neurons in hippocampus^{42,46}. The hippocampus is involved in working memory formation together with the prefrontal cortex. In rats, the hippocampus also plays a role in spatial memory^{30,64}. Damage to the hippocampus is characterized by their working memory deficits for spatial informations³⁹. Spatial information is maintained in the hippocampus and prefrontal cortex is then used to plan for foraging and safety response to survive⁶⁶. Considering that this research could not be done in humans directly with ethical grounds, it has been performed on rats as intelligent experimental animals⁴. Learning and spatial memory in animals are instrumental in helping find locations that provide food and safety for survival. Rats show remarkable spatial ability. Therefore rats used as an animal model of spatial cognition ability by maze. One of the tools to measure the ability of spatial memory is the Morris water maze¹⁴. The present study aimed at investigating the possible protective effects of *H. sabdariffa* on ethanol-elicited deficits of spatial memory and estimated total number of the pyramidal cells in the CA1 and CA2-CA3 regions of the hippocampus of adolescent male Sprague Dawley (SD) rats.

MATERIAL AND METHODS

This is a quasi-experimental research with posttest only control group design. Thirty (30) male rats, aged 30 days, Sprague-Dawley strain, weight 100-125 grams measured before treatment and obtained from the Pharmacology and Therapeutics Department, Faculty of Medicine, Gadjah Mada University were divided into 5 groups. Group 1 (K1) was given boiled water orally (po) and intraperitoneal (ip) injection of normal saline. Group 2 (K2) was given po boiled water and injection of 15% ethanol ip at a dose of 3 g/kg body weight (bw). The treatment groups (P1, P2 and P3) were given *H. sabdariffa* po (0.75 g/kg bw, 1.5 g/kg bw and 3 g/kg bw) respectively in 90 minutes prior to the injection of ethanol. The Ethics Committee of medical and health research in Faculty of Medicine, Gadjah Mada University has stated that this study has met the requirements of ethics by giving a Certificate of Ethics (Ethical Clearance) issued with number: KE/FK/678/EC.

Table 1: Treatment of experimental animals

| Group | 08:00 a.m. | 09:30 a.m. |
|-------|----------------------------|-----------------------------------|
| K1 | Boiled water | ip injection of NaCl 0.9 % |
| K2 | Boiled water | ip injection of 3 g/kg bw ethanol |
| P1 | H. sabdariffa 0.75 g/kg bw | ip injection of 3 g/kg bw ethanol |
| P2 | H. sabdariffa 1.5 g/kg bw | ip injection of 3 g/kg bw ethanol |
| P3 | H. sabdariffa 3 g/kg bw | ip injection of 3 g/kg bw ethanol |

The treatment was given for 25 days. Spatial memory of SD rats was tested with Morris water maze (MWM) protocol after completion of the treatment. Rats were sacrificed and examined their hippocampi. The total numbers of the hippocampus pyramidal cells in CA1, CA2 and CA3 regions were estimated using Nv x Vref method. SPSS 22 was used for statistical data analysis consisted of the mean difference of resulting memory tested by Morris water maze protocol in the form of escape latency time in seconds and the number of pyramidal cells between groups using analysis of variance (ANOVA) continued by post hoc test whenever necessary. Statistical differences were considered significant if the probability value of $p < 0.05$.

RESULTS

A. Spatial Memory

1. Test of Survival (Escape Acquisition Test)

Rats were placed on a starting point randomly selected with the head facing to the pool wall. The reaction of the rat was swimming in the water to find and climb on the platform that marked the end of the test. The time was recorded in seconds called the latency period. Each rat received 8 cycles of tests per day for three consecutive days, bringing the given total tests or trials were 24 times. Figure 1 below shows the results of the trial:

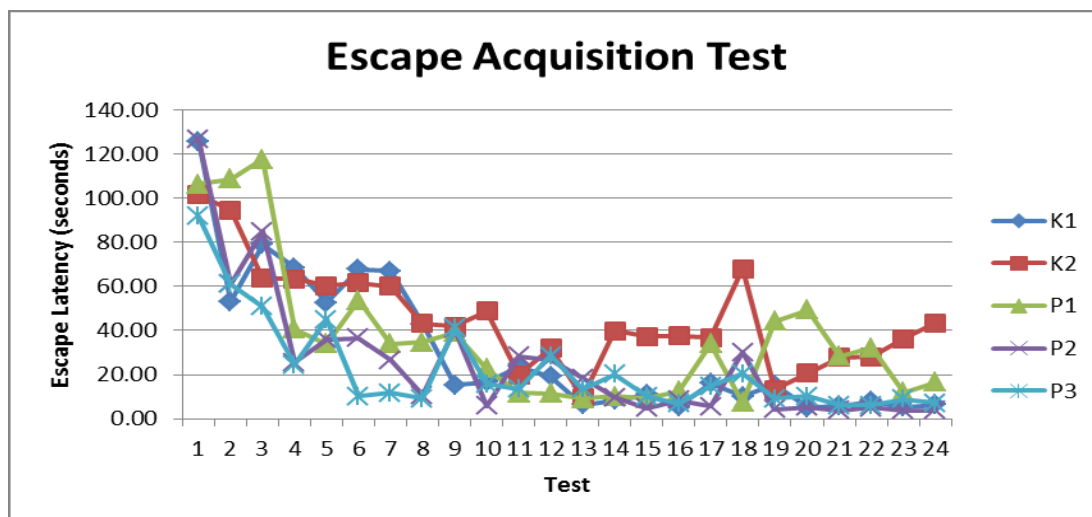


Figure 1: Average of the length of the escape latency time in the escape acquisition test

At first, latency period was long enough and then quicker began by the 4th and 5th tests. A sharp decline of the graph occurs in all groups meaning that there is a process of learning and memory. After that the graph looks tend to be gentler. The graph looks stable and tends to be flat shown by the control group (K1), the treatment groups (P1, P2 and P3) while the K2 group showed the bumpiest. Furthermore, the data were analyzed for each trial by one way ANOVA and continued by post hoc LSD test showing significant difference in the 18th, the 19th, and the 20th trial as shown by Table 2:

Table 2: Results of post hoc LSD test of the length of escape latency time of the 18th trial

| Trial | Group | <i>p</i> |
|----------------------------|--------------|-----------------|
| The 18 th trial | K1 vs K2 | 0.018* |
| | K1 vs P1 | 0.905 |
| | K1 vs P2 | 0.391 |
| | K1 vs P3 | 0.657 |
| | K2 vs P1 | 0.014* |
| | K2 vs P2 | 0.110 |
| | K2 vs P3 | 0.048* |
| | P1 vs P2 | 0.330 |
| | P1 vs P3 | 0.574 |
| | P2 vs P3 | 0.676 |

*Significant with $p < 0.05$

Table 3: Results of post hoc LSD test of the length of escape latency time of the 19th trial

| Trial | Group | <i>p</i> |
|----------------------------|--------------|-----------------|
| The 19 th trial | K1 vs K2 | 0.867 |
| | K1 vs P1 | 0.021* |
| | K1 vs P2 | 0.352 |
| | K1 vs P3 | 0.603 |
| | K2 vs P1 | 0.014* |
| | K2 vs P2 | 0.443 |
| | K2 vs P3 | 0.723 |
| | P1 vs P2 | 0.002* |
| | P1 vs P3 | 0.006* |
| | P2 vs P3 | 0.677 |

*Significant with $p < 0.05$

Table 4: Results of post hoc LSD test of the length of escape latency time of the 20th trial

| Trial | Group | <i>p</i> |
|----------------------------|----------|----------|
| The 20 th trial | K1 vs K2 | 0.413 |
| | K1 vs P1 | 0.027* |
| | K1 vs P2 | 0.985 |
| | K1 vs P3 | 0.785 |
| | K2 vs P1 | 0.144 |
| | K2 vs P2 | 0.423 |
| | K2 vs P3 | 0.582 |
| | P1 vs P2 | 0.029* |
| | P1 vs P3 | 0.049* |
| | P2 vs P3 | 0.800 |

*Significant with $p < 0.05$

2. Memory Persistence Test

After undergoing 24 times of trials that activate learning and memory process, memory persistence test is then performed on the 10th and the 17th day. Memory persistence test was performed once for each rat. The result was showed in Figure 2 as the following:

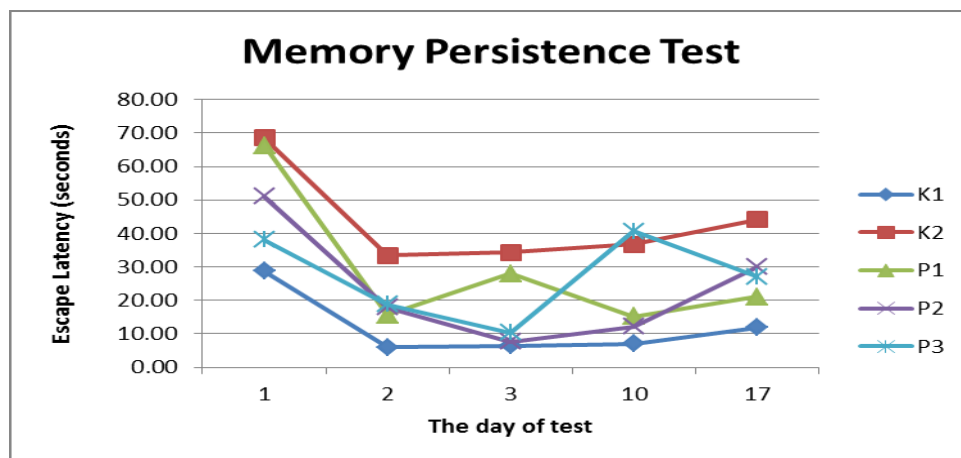


Figure 2: Average length of the escape latency time in memory persistence test

The longest latency time occurs in K2 group, otherwise generally the control group (K1) and treated groups (P1, P2, and P3) showed shorter time. The results of one-way ANOVA statistical test shown in Table 5 indicated that there were no significant differences:

Table 5: Mean \pm SEM length of the escape latency time in memory persistence test

| Group | 1 st day | 2 nd day | 3 rd day | 10 th day | 17 th day |
|-------|---------------------|---------------------|---------------------|----------------------|----------------------|
| K1 | 69,63 \pm 23,46 | 13,20 \pm 3,31 | 8,99 \pm 2,10 | 20,06 \pm 5,29 | 12,15 \pm 2,39 |
| K2 | 68,58 \pm 15,98 | 33,38 \pm 21,58 | 34,30 \pm 17,20 | 36,69 \pm 13,33 | 44,11 \pm 24,94 |
| P1 | 54,01 \pm 15,04 | 29,52 \pm 7,84 | 26,38 \pm 10,05 | 15,12 \pm 4,58 | 21,11 \pm 5,32 |
| P2 | 51,03 \pm 12,71 | 17,88 \pm 7,56 | 7,70 \pm 1,97 | 12,10 \pm 5,09 | 29,93 \pm 10,32 |
| P3 | 38,06 \pm 10,20 | 18,78 \pm 5,35 | 10,34 \pm 1,46 | 40,57 \pm 28,21 | 27,13 \pm 10,14 |
| | df = 4 | df = 4 | df = 4 | df = 4 | df = 4 |
| | F = 0,669 | F = 0,580 | F = 1,782 | F = 0,796 | F = 0,804 |
| | p = 0,620 | p = 0,680 | p = 0,164 | p = 0,539 | p = 0,534 |

B. The number of Hippocampus Pyramidal Cells

Counting the number of hippocampal pyramidal cells was conducted using Nv x Vref method. Observation and image capture of hippocampus preparations were made by light microscope equipped with Optilab digital camera and edited with image raster program with nucleus as the unit count. Results of calculation of estimation of the total number of pyramidal cells in each region are shown in Figure 3 below:

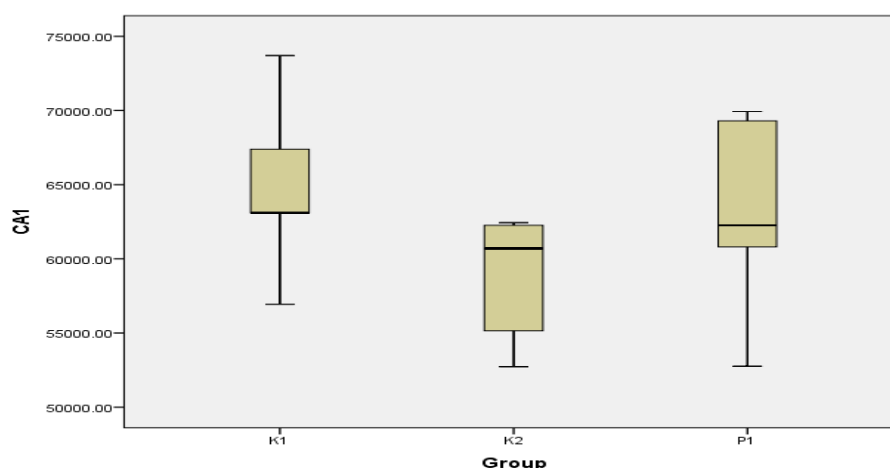


Figure 3: Boxplot of the number of hippocampus pyramidal cells \pm SEM in CA1 region

The results of one-way ANOVA statistical test continued by Post Hoc Multiple Comparisons test Tukey HSD were shown in Table 6 below:

Table 6: Mean \pm SEM of the number of hippocampus pyramidal cells in CA1 region

| Group | CA1 region | p |
|-------|------------------|-------|
| K1 | 64845 \pm 2770 | Ref |
| K2 | 58655 \pm 1986 | 0.270 |
| P1 | 63009 \pm 3146 | 0.880 |

Based on Table 6 and Figure 3 above, it appears that the number of the hippocampus pyramidal cells in CA1 region was most numerous in K1 group (64845 ± 2770), followed by P1 group (63009 ± 3146) and K2 (58655 ± 1986). Statistical test results showed that there was no significant difference between groups. The numbers of hippocampus pyramidal cells in CA2 and CA3 regions were shown in Figure 4 below:

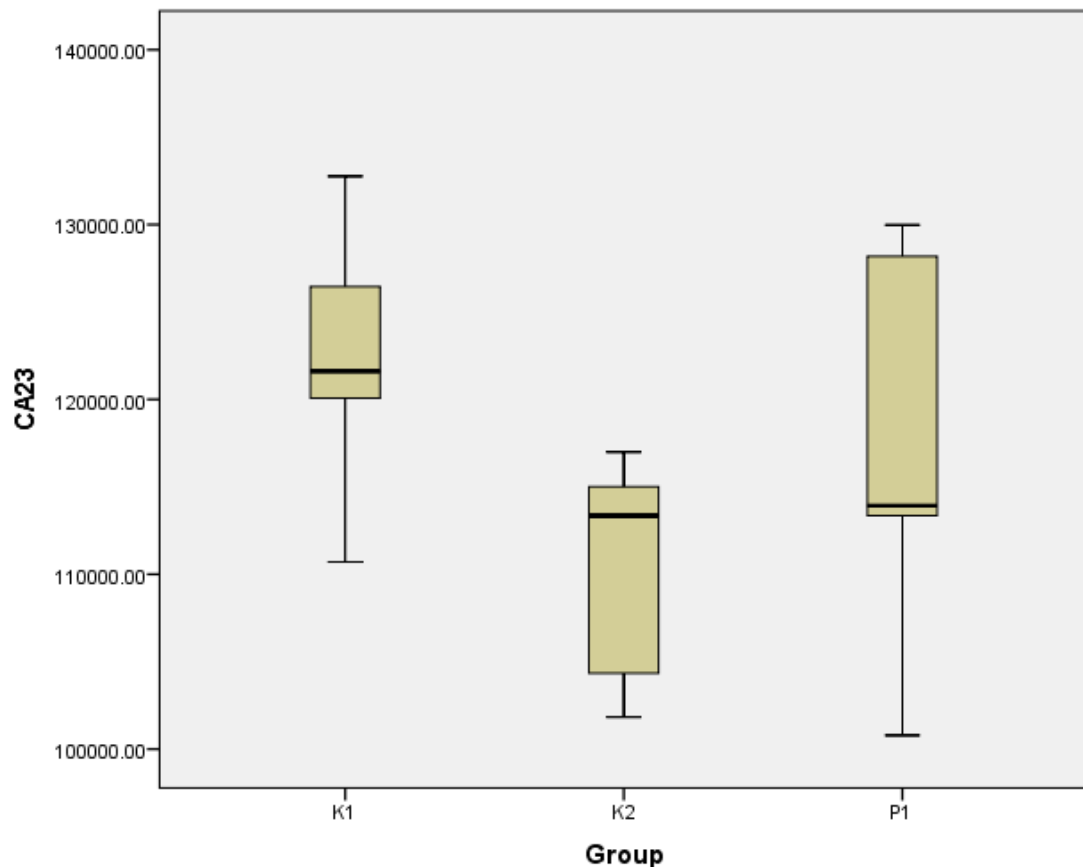


Figure 4: Boxplot of the number of hippocampus pyramidal cells \pm SEM in CA2 and CA3 regions

The results of statistical test using one-way ANOVA continued by Post Hoc Multiple Comparisons test Tukey HSD shown in Table 7 below:

Table 7: Mean \pm SEM number of hippocampus pyramidal cells in CA2 and CA3 regions

| Group | CA2 and CA3 regions | <i>p</i> |
|-------|---------------------|----------|
| K1 | 122320 \pm 3653 | Ref |
| K2 | 110304 \pm 3028 | 0.142 |
| P1 | 117247 \pm 5380 | 0.671 |

Based on Table 7 and Figure 4 above, it appears that the most numerous number of hippocampus pyramidal cells in CA2 and CA3 regions were in K1 group (3653 ± 122320), followed by P1 group (5380 ± 117247) and K2 (110304 ± 3028). Statistical test results showed that there was no significant difference between groups.

DISCUSSION

Groups of experimental animals given ethanol will follow the normal metabolic pathway of ethanol that was dominated by oxidative pathway⁸⁴. Ethanol is both water and lipid soluble and so that the alcohol easily pass through the blood brain barrier⁷. Oxidative stressors lead to increased concentrations of IL-1 β in the brain, particularly the hippocampus, which in turn will stimulate kinase protein that is activated by stress, JNK and p38. There is evidence to suggest that these changes result in cell dysfunction, decreased glutamate secretion, mitochondrial membrane damage, activation of cell death pathways which are all consequences on synaptic function impairment or LTP decrease in charge of the mechanism of learning and memori⁴⁹.

H. sabdariffa contains types of antioxidants such as anthocyanins, polyphenols and flavonoids that are able to penetrate the blood brain barrier. Flavonoids are potent antioxidants that can restore neuronal signaling and cognitive parameters. Anthocyanins are able to penetrate and join various types of cells and protect them against H₂O₂ resulting in cell death by inhibiting their apoptosis caused by H₂O₂. Anthocyanins are active neuroprotective agents to prevent and fight against oxidative stress in neuronal cells and to neutralize fragmented ROS and H₂O₂^{44,75,11,36}. Chronic administration of alcohol increases the incidence of free radicals. The free radicals that lead to oxidative stress cause an increase in the concentration of Interleukin-1 β in the brain, particularly the hippocampus. The concentration of high IL-1 β in the hippocampus stimulates an increase of kinase protein activated by stress, p38, and JNK resulting in cell dysfunction in the hippocampus, a decrease of the secretion of glutamate, mitochondrial membrane damage and cell death pathways are then activated that affect synaptic function. Long-term potentiation (LTP), which plays a role in synaptic function, is deficit after primary neurons (pyramidal cells) reduced in number. LTP deficits result in disruption of new memory formation and memory consolidation (impaired working memory)⁴⁹.

Delphinidin and cyanidin prevents activation of p38 and JNK⁵⁷. H. sabdariffa contains antioxidants from the group of polyphenols, flavonoids and anthocyanins (delphinidin and cyanidin). It may prevent the dysfunction of nerve cells of hippocampus and the reduction in the number of primary neurons. It has been tested by stereology using Nv x Vref method to calculate the number of hippocampal pyramidal cells in CA1, CA2, and CA3 regions. If the cell dysfunction can be prevented, LTP deficit will not occur. Thus the formation and consolidation of memory is not impaired as reflected in good working memory that were tested with Morris water maze test.

CONCLUSION

H. sabdariffa may prevent the ethanol-induced deficits of spatial memory test of rats as was indicated by the results of some escape acquisition tests. There were no significant difference on memory persistence test and the number of hippocampus pyramidal cells in CA1 and CA2-CA3 regions.

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REFERENCES

1. Agartz I., Momenan R., Rawlings R.R., Kerich M.J., Hommer D.W. 1999. Hippocampal Volume in Patients With Alcohol Dependence. *Arch Gen Psychiatry*. 56: 356-363.
2. Ali B.H., Al Wabel N., Blunden G. 2005. Phytochemical, Pharmacological and Toxicological Aspects of Hibiscus sabdariffa L.: A Review. *Phytother Res*. 19:369-375.
3. Babalola, S.O., Babalola, S.O. and Aworh, O.C. 2000. Copositional Attributes of the Calyces of Roselle (Hibiscus sabdariffa L.). *J. Food Technol. Africa*, 6: 133-134.
4. Baker, H.J., Lindsey, J.R. Weisbroth, S.H. 1980. The Laboratory Rat, Academic Press, Sidney.
5. Burt, A. M. 1993. Limbic System, The Book of Neuroanatomy, International edition, Philadelphia.
6. Byrne, J.H. in Squire L.R., Bloom F.E., Mc Connel S.K., Roberts J.L., Spitzer N.C., Zigmond M.J. 2003. Fundamental Neuroscience. Learning and Memory: Basic Mechanism. Second Edition. Academic Press – An Imprint of Elsevier Science. San Diego. California. USA.
7. Carruther, S.G., Hoffman, B.B., Melmon, K.L., Nierenberg, D.W., 2000. Clinical pharmacology melmon and Morrelis. 4th edition. USA: Mc graw Hill.
8. Chang and Lowenstein. 2003. Hippocampal Anatomy. American Epilepsy Society. Available from www.aesnet.org/index.cfm?objectid=21766AF6-1438-BCFC-31A21748AA471E8D. Accessed in December 27th 2008.
9. Chronister and Hardy cit. Haines D.E. 2006. Fundamental Neuroscience for Basic and Clinical Application. 3th edition. Page: 506. Churchill Livingstone Elsevier. Philadelphia.
10. Chen, W. A., Maier, S. E., Parnell, S. F., West, J. R. 2003. Alcohol and Developing Brain Neuroanatomical Studies, *Alcohol Res. Health*, 27 (2) : 174-80.
11. Dani, C., Pasqualli, M.A.B., Oliveira, M.R., Umezu, F.N., Salvador, M., Henriques, J.A.P., and Moreira J.C.F. 2008. Protective Effect of Purple Grape Juice on Carbon Tetrachloride-Induced Oxidative Stress in Brains of Adult Wistar Rats, *J. Med. Food* 11 (1): 55-61.
12. De Bellis, M. D., Clark, d. B., Beers, S. R., Soloff, P. I-1., Boring, A. M., et al. 2000. *Am. J. Psychiatry*, 157 (5) : 737-44.

13. Decker, E.A. 1995. The Role of Phenolics, Conjugated Linoleic Acid, Carnosine and Pyrrol-Quinolinequinone As Nonessential Dietary Antioxidants. *Nutr Rev* 53: 49.
14. Dogru, E. J., Gumusbas, U., Kara, F. 2003. Individual Variation in The Spatial Reference and Working Memory Assessed Under Allothetic and Idiothetic Orientation Cues in Rat, *Acta Neurobiol.*, 63 : 17-23.
15. Du CT, Francis FJ. 1973. Anthocyanins of Rosella (*Hibiscus sabdariffa*, L.). *J. Food Sci* 38:810-812.
16. Durstewitz, D., Seamans, J. K., Sejnowski, T. J. 2000. Neurocomputational Models of Working Memory, *Nat Sci*, 3 : 1184-9 i.
17. Eichenbaum H.B. in Squire L.R., Bloom F.E., Mc Connel S.K., Roberts J.L., Spitzer N.C., Zigmond M.J. 2003. Fundamental Neuroscience. Learning and Memory: Brain Systems. Second Edition. Academic Press – An Imprint of Elsevier Science. San Diego. California. USA.
18. Evans, P., Halliwell, B. 2001. Micronutrients: Oxidant/Antioxidant Status. *Br. J. Nutr*; 85 (suppl 2): S67.
19. Fang Yun-Zhong, Yang Sheng, and Wu Guoyao, 2002, Free Radicals, Antioxidants, and Nutrition, *Nutr* 18:872– 879, *Elsevier Science Inc.*
20. Fasoyiro, S.B., Ashaye, O.A., Adeola, A., Samuel, F.O. 2005. Chemical and Storability of Fruit-Flavoured (*Hibiscus sabdariffa*) Drinks. *J. Agr. Sci. I* (2): 165-168.
21. Floresco, S. B., Braaksma, D. N., Philips, A. G. 1999. Thalamic-Cortical-striatal Circuitry Subserves Working Memory During Delayed Responding on A Radial Arm Maze, *J. Neurosci.* 19 (24) : 11061-71.
22. Frank, T., Janben, M., netzel, M., Strar, G., Kler, A., Kriesl, E and Bitsch, I. 2005. Pharmacokinetics of Anthocyanidin-3-Glycosides Following Consumption of *Hibiscus Sabdariffa* L. Extract, *J. Clin. Pharmacol.* 45:203-210.
23. Ganong. 2003. *Review of Medical Physiology, Section 16: "Higher Functions of the Nervous System": Conditioned Reflexes, Learning, & Related Phenomena.* 21th Edition. The McGraw-Hill Companies, Inc. San Fransisco. USA.
24. Gilbert, D.L. 2000. Fifty Years of Radical Ideas. *Ann. NY. Acad. Sci.*, 899:1.
25. Grainer, B.N. 1994. Herbal Drugs and Phytopharmaceutical, A Handbook for Practice on Specific Basic, 2nd ed. CRS Pres, London, pp 264-268.
26. Gundersen, HJ. 1986. A Review of Unbiased Number and Size Estimators and the Presentation of Some New Ones. *J. Microscopy* 143:3-45.
27. Guyton A.C. and Hall J.E. 2006. Textbook Of Medical Physiology. 11th edition. Elsevier Inc. Philadelphia, Pennsylvania.
28. Guyton, A. C., and Hall, J. E. 2000. The Cerebral Cortex ; Intellectual Functions of The Brain : Learning and Memory, Textbook of Medical Physiology, 10th edition, Philadelphia.
29. Halliwell, B. 1992. Reactive Oxygen Species and the Central Nervous System. *J. Neurochem.* 59, 1609-1623.
30. Hampton, R. R., and Shettleworth, S. J. 1996. Hippocampal Lesions Impair Memory for Location but not Color in Passerine Birds, *Behav. Neurosci.*, 110 (4) : 83135.

31. Hidayat, T. 2007. Budi Daya Tanaman Rosela. CV. Sinar Cemerlang Abadi.
32. Holden, J.M., Eldridge A.L., Beecher, G.R., Buzzard, L.M., Bhagwat, C.S., Davis, L.W., Douglass, A., Gebhardt, S., Haytowitz, D., Schakel, s. 1999. Carotenoid Content of US Foods; An Update of the Database. *Food Compos. Anal.*, 12: 169-196.
33. Holscher, C. 2001. Long- Term Potentiation as a Model for Memory Mechanisms, Neural Mechanisms of Memory Formation, Cambridge.
34. Hong, V. and Wrosted, O. 1990. Use of HPLC Separation/Photodiode Array Detection for Characterisation of Anthocyanin. *J. Agric. Food Chem.*, 38: 708-715.
35. Israel, Y., Orrego, H.; and Carmichael, F.J. 1994. Acetate-Mediated Effects of Ethanol. *Alcohol. Clin. Exp. Res.* 18: 144-148.
36. Kalt, W., Blumberg, J.B., McDonald, J.E., Vinqvist-Tymchuk, M.R., Fillmore, S.A.E., Graf, B.A., O'Leary, J.M. and Milbury, P.E., 2008. Identification of Anthocyanins in the Liver, Eye, and Brain of Blueberry-Fed Pigs, *J. Agr. Food Chem.* 56 (3): 705-712.
37. Kandel, Schwartz, Jessel. 1995. Essential of Neural Science and Behavior, page: 597-600. Prentice Hall International, Inc. USA.
38. Kemp Charles C. 2001. Computational Modeling of Place Cells in the Rat Hippocampus. Available from www.aesnet.org/index.cfm?. Accessed in December 27th 2008.
39. Kesner, R. P., and Rolls, E. T. 2001. Role of Long Term Synaptic Modification in Short Term Memory, Hippocampus, 11 : 240-50.
40. Kiernan, J. A. 1998. Limbic System Hippocampus and Amygdala, Barr's The Human Nervous System An Anatomical View Point, 7th edition, Philadelphia.
41. Koop, D.R. 2006. Alcohol Metabolism's Damaging Effects on the Cell. *Alcohol Res. Health* 29:274-280
42. Krystal, J. H., and Tabakoff, B. 2002. Ethanol Abuse, Dependence and Withdrawal Neurobiology and Clinical Implication, *Neuropsychopharmacology. The 5th Generation of Progress* : 1431-45.
43. Kusumawati, D., 2005. Bersahabat dengan Hewan Coba. Gajah Mada University Press, Yogyakarta.
44. Lacueva, C.A., Hale, B.S., Rachel, Galli, Jauregui, O., Raventos, R.M.L. and Joseph, J.A. 2005. Anthocyanins in Aged Blueberry-Fed Rats are Found Centrally and May Enhance Memory, *Nutr. Neurosci.*; 8 (2):111-120.
45. Lazze MC, Pizzala R, Savio M *et al.* 2003. Anthocyanins Protect Against DNA Damage Induced by Tert-butyl-hydroperoxide in Rat Smooth Muscle and Hepatoma Cells. *Mutat. Res.* 535:103-115.
46. Lescaudron L., and Verna A. 1985. Effects of Chronic Ethanol Consumption on Pyramidal Neurons of The Mouse Dorsal and Ventral Hippocampus : A Quantitative histological analysis, *Exp. Brain. Res.*, 58 : 362-67.
47. Lieber, C.S. 2000. Alcohol: Its Metabolism and Interaction with Nutrients. *Rev. Nutr.* 20, 395-430.
48. Ling, W., Compton, P., Rawson, R., Wesson, D. R. 2003. Neuropsychiatry of Alcohol and Drug Abuse. Neuropsychiatry, Second Edition, Lippincott Williams & Wilkins, Philadelphia.

49. Lynch, M. A. 2004. Long-Term Potentiation and Memory, *Physiol. Rev.*, 84 : 87-126.
50. Makiyah, S.N.N., Aswin, S., Soesatyo, M.HNE. 2003. Pengaruh Pemberian Alkohol Secara Kronis terhadap Memori pada Tikus (*Rattus Novergicus*). *BIK Vol. 35 No. 1*.
51. Mikolajczak, P., Kozaryn, I. o., Nowaczyk, M., Kaminska, E. 2001. Ethanol Facilitation Short-Term Memory in Adult Rats with a Disturbed Circadian Cycle, *Alcohol Alcohol. 36 (4)* : 292-97.
52. Moscovitch, M., Rosenbaum, R.S., Gilboa, A., Addis, D.R., Westmacott, R., et al. 2005. Functional Neuroanatomy of Remote Episodic, Semantic and Spatial Memory: A Unified Account Based on Multiple Trace Theory, *J. Anat.*, 207:35-66.
53. Narwanto, M.I. 2008. Pengaruh pemberian Etanol Secara Kronik terhadap Jumlah Sel Piramidal di CA1 dan CA3 Hippocampus dan Memori Kerja Spasial pada Tikus (*Rattus novergicus*) Remaja. Tesis. Universitas Gadjah Mada. Yogyakarta.
54. Nordmann, R., Ribiere, C. and Rouach, H. 1990. Ethanol-Induced Lipid Peroxidation and Oxidative Stress in Extrahepatic Tissues. *Alcohol Alcohol. 25*, 231-237.
55. Nordmann, R. 1994. Alcohol and Antioxidant System. *Alcohol Alcohol. 29*, 513-522.
56. Nurfaidah, D. 2005. Uji Komponen Zat Gizi Rosella, IPB, Bandung.
57. Oak M-H, Bedoui JE, Madeira SVF, Chalupsky K, Schini-Kerth VB, 2006, Delphinidin and cyanidin inhibit PDGFAB-induced VEGF release in vascular smooth muscle cells by preventing activation of p38 MAPK and JNK, *Br. J. Pharmacol. 149*, 283-290.
58. Parker M. 2008. How Animals learn I: Physiology of Learning & Memory. School of Psychology. University of Southampton.
59. Partadiredja, G. and Bedi, K. 2010. Undernutrition During Gestation and Suckling Periods does not cause any Loss of Pyramidal Neurons in the CA2–CA3 Region of the Rat Hippocampus. *Nutr. Neurosci. 13*: 1-7.
60. Partadiredja, G. and Bedi, K. 2011. Mice undernourished before, but not after, weaning perform better in motor coordination and spatial learning tasks than well-fed controls. *Nutr. Neurosci. 14*: 129-137.
61. Poon HF, Calabrese V, Scapagnini G, Butterfield DA. 2004. Free Radicals and Brain Aging. *Clin. Geriat. Med. 20*:329-359.
62. Qi, Y., Chin K.L., Malekian, F., Berhame, M., Gager, J. 2005. Biological Characteristics, Nutritional and Medicinal Value of Roselle Hibiscus sabdariffa. *Cir-Urb. Nat. Res. Envir. 604*: 1-2.
63. Roberto M., Nelson T.E., Ur C.L., Gruol D.L. 2002. Long-Term Potentiation in the Rat Hippocampus Is Reversibly Depressed by Chronic Intermittent Alcohol Exposure. *J. Neurophysiol. 87*:2385-2397.
64. Ropper, A. H., and Brown, R. H. 2005. Alcohol and Alcoholism & Dementia and The Amnestic Syndrome, Adam's and Victor's Principles of Neurology, 8th edition, New York.

65. Ryabinin Andrey E, 1998, Role of hippocampus in alcohol-induced memory impairment: implications from behavioral and immediate early gene studies. *J. Psychopharmacol.* 139: 34-43, Springer-Verlag.
66. Seamans, J. K., Floresco, S. B., Phillips, A. G. 1998. DI Receptor Modulation of Hippocampal-Prefrontal cortical circuits Integrating Spatial memory with Executive Function in The Rat, *J. Neurosci.*, 18 (4) : 1613-21.
67. Shibata M, Furukawa M. 1969. Reexamination of the Structure of the so-called Hiviscin. *Bot. Mag. Tokyo* 82:341-347.
68. Silverthorn D.U. 2007. Human Physiology An Integrated Approach. Neurons: Cellular and Network Properties, 4th edition, page 281-282. Pearson Education, Inc., publishing as Benjamin Cumming, Sansome St., San Fransisco. USA.
69. Soehardjono, D. 1990. Percobaan Hewan Laboratorium. UGM Press, Yogyakarta, pp 256-257.
70. Spear, L. P.(a) 2002. The Adolescent Brain and The College Drinker : Biological Basis of Propensity to Use and Missuse Alcohol, *J. Stud. Alcohol*, 14 : 71-81.
71. Spear, L. P.(b) 2002. Alcohol's Effects on Adolescent, *Alcohol Res. Health*, 26 (4) : 287-91.
72. Squire, L. R., and McKee, R. D. 1995. Biology of Memory, Comprehensive Textbook of Psychiatry/ VI, ed Kaplan, H. I., & Sadock, I. J., 60th edition, Baltimore.
73. Suboh SM, Bilto YY, Aburaji TA. 2004. Protective Effects of Selected Medicinal Plants Against Protein Degradation, Lipid Peroxidation and Deformability Loss in Erythrocytes. *Phytother. Res.* 18:280-284.
74. Tabakoff, B., and Hoffman, P. L. 2000. Animal Models in Alcohol Research, *Alcohol Res. Health*, 24 (2): 77-84.
75. Tarozzi, A. 2007. Neuroprotective Effects of Anthocyanins and Their in Vivo Metabolites in SH-SY5Y Cells, *Neurosci. Letters* 424:36-40.
76. Tortora G.J. and Derrickson B. 2006. Principles of Anatomy and Physiology, 11th edition, page: 567-568. John Wiley & Sons, Inc. USA.
77. Tseng, TH., Kao ES, Chu CY et al. 1997. Protective Effects of Dried Flower Extracts of Hibiscus sabdariffa L. Against Oxidative Stress in Rat Primary Hepatocytes. *Food Chem. Toxicol.* 35:1159-1164.
78. Umerchuruba, C.I., 1997. An Annotated List of Plant Diseases in Nigeria. *Pen Pap. Publ.*, Owerri, Nigeria.
79. Vincent AM, Russel JW, Low P, Feldman EL. 2004. Oxidative Stress in the Pathogenesis of Diabetic Neuropathy. *Endocr. Rev.* 25:612-628.
80. Wang CJ, Wang JM, Lin WL et al. 2000. Protective Effect of Hibiscus Anthocyanins Against Tert-butyl Hydroperoxide-induced Hepatic Toxicity in Rats. *Food Chem. Toxicol.* 38:411-416.
81. Werner, J., Saghir, M., Warshaw, AL., et al. 2002. Alcoholic Pancreatitis in Rats: Injury from Nonoxidative Metabolites of Ethanol. *AJP, Gastr. Liver Physiol.*, 283:G65-G73.
82. Winarsi, H., 2007. Antioksidan Alami dan Radikal Bebas, Potensi dan Aplikasinya dalam Kesehatan. Kanisius, Yogyakarta.

83. Wong, P.K. 2002. Physico-Chemical Characteristics of Rosella (*Hibiscus sabdariffa*). *Nutr. Food Sci.*, 32:68-73.
84. Zakhari, S., 2006. Overview: How is Alcohol Metabolized by The Body? *Alcohol Res. Health. Vol 29, No. 4.* Maryland, USA.

DESCRIPTION OF THE IMPLEMENTATION OF SAFE SURGERY CHECKLIST IN CENTRAL SURGICAL DEPARTMENT

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ABSTRACT

Background: Safe surgery is a prevention of injury in patients undergoing surgery and becomes the goal of patient safety. Safe surgery consists of three stages namely procedure verification, procedure marking, and surgical safety checklist. In performing a surgery, the documentation related to it must be 100% complete so that any failures, accidents and other problems concerning patient safety can be reduced.

Objective: The present study aimed to describe the implementation of safe surgery documentation in the department of surgery (IBS) of. The implementation includes verification, marking, and surgical safety checklist (sign in, time out, sign out).

Method: The data were collected by observation sheet in the form of check lists. The sampling used was simple random sampling and implemented on 228 out of 529 documentations of hospitalized patients undergoing surgery.

Results: The results showed that out of 228, 39 (17.11%) medical records were found to be incomplete and 189 (82.89%) were found to be complete. This completeness includes verification of surgical procedures, marking of the surgery location, and surgical safety checklist.

Conclusion: Based on the study, it is revealed that supports from the hospital management, increased professionalism of nurses and doctors, as well as periodic supervision from the head of unit/room and safe surgery quality assurance team are required to do that safe surgery documentation remains in accordance with the existing operational procedures.

Keywords: documentation, safe surgery

BACKGROUND

Patient safety programs are one of the conditions that all hospitals must implement (Commission on Accreditation of Hospitals, 2011), and that was why the WHO launched a program of safe surgery (WHO, 2008). Safe surgery is the fourth component of the IPSPG which includes the ensuring of correct surgical sites, correct procedures, and correct surgical patients (JCI, 2010). WHO estimates that there are at least a half million of deaths caused by surgery which could actually be prevented (Pinzon, 2007). In England and Wales, the National Patient Safety Agency (NPSA) reported 127,419 incidents related to surgery in 2007. In the state of Minnesota, USA, which occupies less than 2% of

the total population of the country, it was reported that there were 21 operations performed on the wrong surgical sites of the patients just in one year (October 2007 to October 2008) (Pinzon, 2007; Sri, Pudji R & Djasri, 2011). The reality is likely even worse as most incidents were not officially reported (Pinzon, 2007).

The documentation of safe surgery consists of verification of procedure process before surgery (Pinzon, 2007; Scheidt, 2002), marking of the surgical sites (Hanchanale, 2011; Mulloy, 2011; Scheidt, 2002), and surgical safety checklist (sign in, time out, sign out) (Klei van W. A, Hoff, 2012; Sri, Pudji R and Djasri, 2011; Suharjo B. Cahyono, 2008). Errors on surgical procedures particularly incomplete documentation has served as a major contributing factor to the failure of the surgery. Thus, it is vital to have a 100% completeness of surgery documentation so that any incidents and problems concerning patient safety can be reduced (Kathleen M, Haig, 2006; Sukasih & Suharyanto, 2012; WHO, 2008).

A preliminary survey in central surgical department revealed that 60.3% of the safe surgery documentation was complete. The remaining 39.7% was incomplete. This incompleteness included verification of operation procedures, marking of the surgical sites and surgical safety checklists. Interviews and document surveys from the quality assurance committee found surprising data. It was revealed that from January to May 2014, there were 11% cases of surgical delays, 6 patients with allergies, hypovolemic shock once before surgery and 3 incidents of table death surgery due to incomplete surgical documents.

METHOD

This research represented a quantitative study with observational research design. A simple randomized sampling technique was used to select 228 out of 529 documentations of patients who had surgery. They were selected based on the inclusion criteria that the documents were from the hospitalized patients and the operations were performed accordingly with the schedule. Meanwhile, the exclusion criteria included the documents of patients with canceled surgery and the urgency that occurred during surgery. The data were collected using observation sheets or checklists verified by the experts from nursing and medicine and then analyzed using univariate analysis. This analysis examined the existing variables descriptively by calculating the frequency of distribution. The data obtained were in the form of frequency table.

RESULTS

The results of data analysis collected from the safe surgery documentation in December 2014 were as the followings:

Table 1

The frequency distribution of safe surgery documentation by category of complete or incomplete (n = 228)

| | Complete | Incomplete | Total |
|---|-----------------|-------------------|--------------|
| | n(%) | n(%) | n(%) |
| All aspects of documentation (verification of surgical procedure, marking of surgical sites, and surgical safety checklist) | 189 (82.89%) | 39 (17.11%) | 228 (100%) |

Table 2
The frequency distribution of safe surgery documentation based on the documentation components (n = 228)

| No | Components | Filled | Unfilled | Target Category 100% |
|----|----------------------------|-------------|-----------|-------------------------|
| | | n(%) | n(%) | |
| 1 | Verification of procedure | 203 (89) | 25 (11) | Incomplete |
| 2 | Marking of surgical sites | 225 (98.7) | 3 (1.3) | Incomplete |
| 3 | Surgical Safety Check List | 215 (94.39) | 13 (5.61) | Incomplete |

Table 3
The frequency distribution of the description of procedure verification, surgical site marking, and surgical safety check list (n = 228)

| Verification of surgical procedure | | | | |
|------------------------------------|---|------------|---------|-----------|
| No | Assessed Aspects | Yes | No | TOTAL |
| | | n(%) | n(%) | n(%) |
| 1 | Doctors write the hour (time) of surgery according to the performed preoperative assessment | 223 (97.8) | 5 (2.2) | 228 (100) |
| 2 | Doctors write the date of surgery according to the performed preoperative assessment | 220 (96.5) | 8 (3.5) | 228 (100) |
| 3 | Nurses and doctors write the objective data as found during physical assessment before surgery | 226 (99.1) | 2 (0.9) | 228 (100) |
| 4 | Nurses provide the blood supply/other tools as needed. | 221 (96.9) | 7 (3.1) | 228 (100) |
| 5 | Anesthetic doctors estimate anesthesia time | 222 (97.4) | 6 (2.6) | 228 (100) |
| Marking of surgical sites | | | | |
| 1 | Doctors do the preparation and provide education to patients | 226 (99.1) | 2 (0.9) | 228 (100) |
| 2 | Patients/families give their signature | 227 (99.6) | 1 (0.4) | 228 (100) |
| Surgical Safety Check List | | | | |
| Sign in | | | | |
| 1 | Nurses and anesthetic doctors check and recheck anesthesia machines and drugs | 227 (99.6) | 1 (0.4) | 228 (100) |
| 2 | Nurses confirm the patients whether there is a history of allergy | 225 (98.7) | 3 (1.3) | 228 (100) |
| Time out | | | | |
| 3 | Nurses confirm the doctors regarding how to anticipate critical incidents in patients | 227 (99.6) | 1 (0.4) | 228 (100) |
| 4 | Nurses prepare the equipment that supports a particular incident in patient | 227 (99.6) | 1 (0.4) | 228 (100) |
| Sign out | | | | |
| 5 | Nurses check and recheck whether there are specimens to be examined or whether they have been given a label of patient identity | 227 (99.6) | 1 (0.4) | 228 (100) |
| 6 | Nurses review the main problems of the patients | 226 (99.1) | 2 (0.9) | 228 (100) |
| 7 | Doctors review the main problems of the patients | 224 (98.2) | 4 (1.8) | 228 (100) |

DISCUSSION

The findings showed that 189 (82.89%) safe surgery documents were complete and 39 (17.11%) were incomplete. Although the majority of the documents were complete, some were not. This incompleteness varied in some components of the documents, while in fact they must be a 100% completed (DPP-HIPKABI, 2012; JCI, 2010; Commission on Accreditation of Hospitals, 2011; Majid A, Judha M, 2011). The completeness of documentation becomes an effective way to communicate the evidence of what has been done by the health professionals. Incomplete documents give negative impacts to patients for at least on the process of surgery that may experience a delay (KK Blais, 2006; Sukasih&Suharyanto, 2012).

Documentation is very important to protect patients as service recipients and also protect the professionals who provide the services (Hidayat, 2007). Furthermore, it is also useful to facilitate the effective communication in surgical procedures in order to improve the quality of care and patient safety during surgery (JCI, 2010; The Commission on Accreditation of Hospitals, 2011). Therefore, documentation should become the concern of all hospitals as the completeness of documentation is also an important part of accreditation process (Nursalam, 2011).

The present findings showed that 25 (11%) out of 228 samples missed the component of verification procedures in their documentation. In fact, verification is a very important part of safe surgery before the surgery is performed to a patient. It includes a set of items that should be well documented, including administrative requirements, complete requirements for surgery, nursing actions, patients' supporting documents, indication for transfusion, anesthesia status and current status of the patient's condition at the time of admission in the operating room (Pinzon, 2007). A good implementation of the standardized preoperative process can reduce occupational accidents, failures and other problems related to patient safety (Sukasih&Suharyanto, 2012). On the other hand, when doctors do not write the hour and date of surgery during preoperative assessment, there is a risk of unwanted incidents and delayed surgery (Sri, Pudji R & Djasri, 2011; Sumadi, 2013).

Unmeasured interviews generally state that nurses and doctors are having difficult time to write complete documentation as they are too busy in the operating room. Some nurses and doctors even do not know that documentation of the verification procedure must always be completed. Documentation itself means something which is written or printed, and then relied upon as evidence records for the authorized persons, and is part of professional practice (Potter & Perry, 2005). When documentation is not carried out by nurses, it means professionalism has not yet properly developed and implemented by the nurses themselves (Potter & Perry, 2005). A good cooperation among all the involved teams is required and should be comprehensively documented (Zorab, 2002). The process of identification and verification is one of the efforts to increase the safety of surgery, and the preoperative verification process is a way to do to reduce the risk of surgical errors (Pinzon, 2007).

The results of present study also showed that the component of marking had not been entirely completed either by nurses, doctors and families. The

incompleteness occurred in 3 (1.3%) of the total samples (n=228). This showed that most of the documentation on the component of marking had been largely done. However, it still be categorized as incomplete due to the fact that it was not yet 100%. The purpose of marking is to identify the sites and parts of the patient's body to be operated or initiated. There should be a brief description if marking on the patient's body cannot be performed. Active involvement from the patient is therefore required (Hanchanale, 2011; Mulloy, 2011; Scheidt, 2002).

The results from unstructured interviews to nurses and doctors revealed that they were generally not aware of the statements on the preparation documentation and whether patient education is required or not. They wondered whether the explanation is about the operating procedures or simply the preparation before and after the surgery. And thus, the preparation documentation and patient education rely on the knowledge of nurses and doctors who are on duty at that time. When it frequently happens that doctors and nurses do not provide any education to the patient regarding the condition, it will then possibly cause anxiety in patients and be associated with patient satisfaction (Diyanto, 2007). Marking documentation which does not involve the patient is a mistake in operating procedures (WHO, 2008). This should really be prevented. It is not the responsibility of an individual, but it is a shared responsibility of the entire healthcare teams (Scheidt, 2002). There should also be an emphasis on the involvement of the patients (Hanchanale, 2011).

The results of surgical safety checklist documentation found that out of 228 medical records, 215 (94.39%) were completely filled and 13 (5.61%) were not. Incomplete documentation occurred in balance between the ones done by doctors and by nurses. From the unstructured-interviews to both of them, it was confirmed that they were too busy and tensed as they had to keep their focus on the patient. Thus, they had no enough time to do a complete documentation. This was due to fact that they had limited personal and a huge amount of workload at the hospital (Diyanto, 2007). Meanwhile, missed procedure of documentation can lead to problems when the anesthesia process begins. All the moves as required by the standard should be in a unity and is intended to improve patient safety during surgical procedures, prevent errors of locating surgical sites and of performing operating procedures, and reduce mortality due to surgical complications such as allergic events (JCI, 2010 ; Kathleen M, Haig, 2006; Commission on Accreditation of Hospitals, 2011; WHO, 2008).

Furthermore, the study also identified two incomplete items in the time-out phase. Time out is the second step or final step in the implementation of safety surgery. It aims to prevent errors of preparing wrong patients and determining surgical location and surgical procedures. Besides, it also improves the cooperation between members of the surgical teams (Suharjo, B. Cahyono, 2008). For all those reasons, accuracy in filling out the documentation of surgical safety checklist is absolutely necessary (Potter & Perry, 2005). The findings also identified 3 incomplete items in the sign out phase, which is the final stage of surgical safety procedures (Majid A, Judha M, 2011). An official documentation should be implemented as a legal aspect and as a means of communication between healthcare teams in both the operating room and the patient care room (Davis, 2008). The study found that incompleteness of the documents occurred in

the implementation of the sign in, time out, and sign out phases. The implementation of the sign out phase in general still performed low. This was due to the postoperative situation that caused the surgical teams in a hurry to leave the operating department (K. Ram, 2013).

CONCLUSIONS AND SUGGESTIONS

The implementation of the entire documents of safe surgery was found to be incomplete. The component of operating procedure verification only reached 89.04%, marking of operation reached 98.7%, and surgery safety check list (sign in, time out and sign out) reached 94.38% out of the target completeness of 100%. The impacts occurring when safe surgery documentation was incomplete would lead to unwanted incidents, delays in surgery, errors of operating procedures, work accidents, failure of the surgery, surgery on wrong sites / location, and death due to surgical complications. To avoid those negative impacts, supports from the hospital management and the head of nursing division are badly required in doing evaluation of the documents, improving professionalism of nurses and doctors as well as providing a regular supervision from the head of rooms/wards and safe surgery quality assurance team so that the documentation can be done accordingly with the existing procedures.

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REFERENCES

- Blais KK, et al. (2006). *Praktek Keperawatan Professional Konsep dan Perspektif*. Jakarta: EGC.
- Davis, F. (2008). *Pocket Guide to The Operating Room 3rd Edition*. Philadelphia.
- Diyanto, Y. (2007). Analisa Faktor-Faktor Pelaksanaan Dokumentasi Asuhan Keperawatan di Rumah Sakit Tugurejo Semarang. *Eprints.undip.ac.id*.
- DPP-HIPKABI. (2012). *Buku Panduan Dasar-Dasar Keterampilan Bagi Perawat Kamar Bedah*. Jakarta: HIPKABI press.
- Hanchanale, et al. (2011). Wrong site surgery! How can we stop it? *PubMed*.
- Hidayat. (2007). *Pengantar Konsep Dasar Keperawatan*. Jakarta: Selemba Medika.
- JCI. (2010). *Joint Commission International Accreditation Standards for Hospitals. 4th Ed*. USA: JCI.
- K. Ram, M. A. B. (2013). *Checklists and Crisis Management in Surgical Emergencie*. USA: BJS Society Ltd.
- Kathleen M, Haig, A. et al. (2006). *SBAR: A Shared Mental Model for Improving Communication Between Clinicians. Journal of Quality and Patient Safety Vol-32*. Illinois: Bloomington.
- Klei van W. A, Hoff, A. et al. (2012). Effects of the Introduction of the WHO Surgical Safety Checklist on In-Hospital Mortality: A Cohort Study. *Annals of Surgery*, 255(1), 44–49.
- Komisi Akreditasi Rumah Sakit. (2011). *Standar Akreditasi Rumah Sakit*. Jakarta: dirjen BUK.

- Majid A, Judha M, I. U. (2011). *Keperawatan Perioperatif*. Yogyakarta: Gosyen Publisng.
- Mulloy, F. D. and R. G. H. (2011). *No Title Wrong-Site Surgery: A Preventable Medical Error* (p. 36). *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*.
- Nursalam. (2008). *Pendekatan Praktis Metodologi Riset Keperawatan*. Jakarta: CV Sagung Seto.
- Nursalam. (2011). *Manajemen Keperawatan*. edisi 3. Jakarta: Selemba Medika.
- Pinzon, R. (2007). Pre - Surgery Verification Development Process To Improve Patient Safety In Hospital. *Jurnal Manajemen Pelayanan Kesehatan*, 10, 143–147.
- Potter & Perry. (2005). *Buku Ajar Fundamental Keperawatan (konsep, proses, dan praktik)*. (R. Komalasari, Ed.) (4th ed.). Jakarta: EGC.
- Scheidt, R. (2002). *Ensuring Correct Site Surgery*. USA: AORN Journal; 76(5) 770-7; quiz 779- 82.
- Setiadi. (2007). *Konsep dan Penulisan Riset Keperawatan*. Yogyakarta: Graha Ilmu.
- Sri, Pudji R & Djasri, H. (2011). *Inisiatif Penerapan WHO Safety Surghical Check List (SSCL) di RS di Indonesia*. Yogyakarta: FK UGM.
- Sugiyono. (2011). *Metode Penelitian Kuantitatif, kualitatif dan R&D*. Bandung: Alfabeta.
- Suharjo B. Cahyono. (2008). *Membangun Budaya Keselamatan Pasien Dalam Praktik Kedokteran*. Jakarta: Kanisius.
- Sukasih & Suharyanto, T. (2012). *Analisis Faktor-Faktor yang Berkontribusi Terhadap Pasien Safety di Kamar Operasi Rumah Sakit Premier Bintaro*. Jakarta: Jurnal Health Quality Vol.2 No.4.
- Sumadi, A. (2013). *Surgery Safety Checklist Sebagai Sistem Informasi Dalam Upaya Keselamatan Pasien Di Kamar Bedah*. Jakarta: Kompasiana.
- WHO. (2008). *World Alliance For Patient: Safety, Implementation Manual Who Surgical Safety Checklist (First Edition), Safe Surgery Saves Lives*. Geneva: WHO.
- Zorab, J. S. (2002). Patient Safety is More Important than Efficiency. *BMJ*, 324(65).

THE DESCRIPTION OF KNOWLEDGE LEVEL IN TREATING DIARRHEA ON BALITA (CHILDREN UNDER FIVE) IN PUBLIC HEALTH CENTER WORK AREA WIROSARI 2, WIROSARI DISTRICT, GROBOGAN REGENCY

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ABSTRACT

Background: Diarrhea could cause dehydration which could lead to death. The Knowledge in treating diarrhea is very important, because it could reduce the mortality patients with diarrhea. The incidence number of diarrhea in PHC Wirosari 2 was the highest, there were 1,962 people and 893 of them were children under five.

Objective: This study was aimed to identify the description of the knowledge level of mothers in treating diarrhea by providing nutrition, medication and fluids to children under five.

Method: This study was a descriptive survey using cross sectional approach, the sample was determined by Probability sampling by stratified random sampling technique. The number of research respondents which parents with children under five suffering from diarrhea were 276 respondents.

Result: The results showed that most of mothers had adequate knowledge in treating diarrhea to children under five, as many as 167 people (60.5%), 65 people (23.6%) had poor knowledge and 44 people (15.9%) had good knowledge. The mother had good knowledge in treating using nutrients, as many as 165 people (59.8%). The Knowledge of mother was in adequate category by providing medication, as many as 133 people (48.2%). However, the knowledge was still poor with the liquid treatment, as many as 130 people (47.1%). The results showed that the knowledge level of mothers was influenced by several factors, such as: internal (experience, age, education level, faith), while external factors (resources, income, socio-cultural).

Keywords: Knowledge of mother, Treating diarrhea, Balita (children under five)

BACKGROUND

Balita is a child who has been turned over one or more years which known as children under five (Muaris, 2006). Infancy is a golden age in the physical development of the child. Balita are children under five (Wong, 2009). Health status reflects the health of the nation's children, because children are the future generation.

There are several indicators that can be used to determine health status, such as, the infant mortality rate, the infant morbidity rate, the nutritional status and life expectancy at birth (Hidayat, 2008). The infant mortality rate becomes the first indicator in determining the health status of children. The High infant mortality rate caused by various factors, including the factor of infectious diseases and malnutrition. Some diseases which are still the biggest cause of infant mortality are diarrhea, pneumonia, tetanus and perinatal disorders (Hidayat, 2008). The Cause of infant mortality (29 days-11 months) the vast majority were diarrhea (31.4%) and pneumonia (23.8%). Similarly, children mortality (12-59 months), the vast majority were diarrhea (25.2%) and pneumonia (15.5%) (Agtini, 2007).

Diarrhea is the second leading cause of death in children under five in the world, the third in infants, and the fifth for all ages. UNICEF reported that 1.5 million children die each year from diarrhea (UNICEF-WHO, 2009). Various attempts have been made to reduce the incidence of diarrhea in the hope of diarrhea problems can be resolved and the child will not have moderate or severe dehydration that needs treatment. In fact, diarrhea is a major cause of infant mortality in Indonesia (Agtini, 2007).

The Profile of public health office of Grobogan regency year 2009-2013, shows the tendency of rising incidence of diarrhea-related cases of all ages. In 2009 as many as 10.715 cases of diarrhea, in 2010 it increased to 13.937 cases of diarrhea. Diarrhea cases decreased in 2011 to 12,960. In 2012, the number of diarrhea cases increased again to 13.950 cases and during January to September 2013 the number of diarrhea cases reached 11 917 cases. From the 30 health centers in the Grobogan region, PHC Wirosari 2 ranks first with 1,962 patient of morbidity and 893 of them are children under five. While the number of children in PHC Wirosari 2 was 3,094 under five. The Treatment of diarrhea in the most of the Capital in the region is still using the traditional way that is guava leaves are boiled and then the boiled water is given to children (The Profile of Grobogan District Health Office, 2013). The recommended medical treatment in treating diarrhea is to provide oralit drink liquid sugar or salt (WHO, 2005).

The survey results during preliminary study on 20 November to 23 November 2013, showed that there were many phenomena that were found on the diarrhea handling in the working area Wirosari 2. The Results of interview from 5 of 7 mothers with children suffering from diarrhea stated that before the child was taken to the health center, the mother used boiled guava leaf in advance to treat diarrhea. Meanwhile, 2 of 7 mothers stated that the child was immediately taken to the health center or midwife while having diarrhea. Based on the description above, the researchers are interested to conduct a research about the Knowledge Level in Treating Diarrhea of children under five in Wirosari 2 PHC Wirosari district Grobogan Regency.

OBJECTIVE

The general objective of this study is to identify the Knowledge level of Mothers in treating Diarrhea of children under five, identify the mother's knowledge in giving fluids, nutrition, and medicine, and identify the characteristic

features of age, education level and occupation mothers who have children under five in PHC work area Wirosari 2, Wirosari district, Grobogan regency.

METHOD

This study was designed using a descriptive survey, with cross sectional approach. The Population in this research was all of mothers with children under five who had diarrhea with a total population of 893 people. The Probability sampling was used by using stratified random sampling technique to obtain the number of 276 samples. The Data was collected by using questionnaire. A questionnaire was used to determine the knowledge level of mothers in treating diarrhea to children under five. The questionnaire used in this study was the researchers' draft questionnaire sourced from various literature. Before the questionnaire was tested to the respondents, the questions had been consulted with experts for assessment at first. Furthermore, the questionnaire was tested its validity and reliability. There were 25 valid questions to the validity value over 0,361, and 5 remain invalid which were decided to be included because those 5 questions affected the results of the research. The reliability Test resulted the cronbach's Alpha 0.853. The study was conducted in PHC Wirosari 2, Wirosari district, Grobogan regency on April 28 to May 5, 2014.

RESULT

Table 1.
Respondents Distribution by Respondent Characteristics
in the PHC Wirosari 2 from April to May 2014 (n = 276)

| No. | Characteristics of Respondents | Frequency | % |
|----------|--------------------------------|-----------|------|
| 1 | Age | | |
| | 12-15 years | 3 | 1,1 |
| | 16-18 years | 10 | 3,6 |
| | 19-25 years | 97 | 35,1 |
| | 26-35 years | 138 | 50,0 |
| | 36-45 years | 28 | 10,1 |
| 2 | Education Level | | |
| | Drop Out | 13 | 4,7 |
| | Elementary School | 63 | 22,8 |
| | Junior High School | 82 | 29,7 |
| | Senior High School | 95 | 34,4 |
| | College | 23 | 8,3 |
| 3 | Occupation | | |
| | Housewife | 191 | 69,2 |
| | Private employees | 27 | 9,8 |
| | Entrepreneur | 49 | 17,8 |
| | Civil Servants | 9 | 3,3 |

Table 1 showed the distribution of respondents based on respondents age characteristic that the sample of 276 respondents ranging from 12-45 years surveyed, with the greatest number in the age group 26-35 years, as many as 138

people (50.0%), 95 people (34, 4%) graduated from high school/equivalent and 192 people (69.2%) worked as housewives.

Table 2.
Respondents Distribution by Level of Knowledge
In The work area of PHC Wirosari 2 from April to May 2014 (n = 276)

| No. | Level of Knowledge | Frequency | % |
|-----|--------------------|-----------|------|
| 1 | Good | 44 | 15,9 |
| 2 | Adequate | 167 | 60,5 |
| 3 | Poor | 65 | 23,6 |
| | Total | 276 | 100 |

Table 2 showed the respondents distribution by the mothers' level of knowledge of 276 respondents stated that the majority of mothers who had adequate knowledge in treating diarrhea to children under five, as many as 167 people (60.5%).

Table 3.
Respondents Distribution of Mothers' Knowledge Level to treat Diarrhea
By Providing Liquid, Nutrition and Medicine
The PHC Wirosari 2 from April to May 2014 (n = 276)

| No. | Knowledge level | Frequency | % |
|----------|-----------------------------|-----------|------|
| 1 | Fluids treatment | | |
| | Good | 51 | 18,5 |
| | Adequate | 95 | 34,4 |
| | Poor | 130 | 47,1 |
| 2 | Nutrition treatment | | |
| | Good | 165 | 59,8 |
| | Adequate | 76 | 27,5 |
| | Poor | 35 | 12,7 |
| 3 | Medication treatment | | |
| | Good | 16 | 5,8 |
| | Adequate | 133 | 48,2 |
| | Poor | 127 | 46,0 |

Table 3 showed the respondents distribution of the mothers' knowledge level in treating diarrhea to children under five by giving fluids, nutrition and medication. From 276 respondents, of providing fluid could be seen that most of the mothers in this study had less knowledge as many as 130 people (47.1%). While for the nutrients treatment could be seen that most of the respondents in this study had good knowledge as many as 165 people (59.8%). From the drug treatment, it can be seen that most of the mothers in the study had adequate knowledge as many as 133 people (48.2%).

DISCUSSION

The Characteristics of respondents and the level of knowledge about the diarrhea treatment

The results showed that most of mothers worked as housewife with an average age of 26-35 years, and many mothers who had high school/equivalent. The Occupation, age and level of education of a person can affect a person's level of knowledge in resolving a case (Notoatmodjo, 2003). A Mother who works as a housewife usually has experience in caring for their children, as well as in treating children suffering from diarrhea. Mother will acquire knowledge of the role of the mother in caring for children. Furthermore, the mother role in caring the child will be a mother's experience and improve their knowledge. The Results of the study showed that women who worked as housewives mostly hadadequate knowledge in treating diarrhea. It is inversely proportional to the research on "The Role of Mothers In Meeting the Basic Needs of Kids tothe Development of Preschool children" where most of the respondents who work as a housewife show the mothers' role in meeting the basic needs of children are good. This is the requirementof basic needs in terms of caring for the child (Werdiningih, 2012).

Knowledge of nutrition Treatment

The Results of the research on providing nutrition to children suffering from diarrhea showed that the mothers' knowledge was in good category. In this study the experience of mothers who did not work more than mothers who worked. It was in line with the research on "The Role of Mothers In Meeting the Basic Needs of Kids to the Development of Preschool Children" where most of the respondents who worked as a housewife showed mothers role in meeting the basic needs of children are good (Werdiningih, 2012). As well as it was influenced by much information from a magazine or television about nutrition to children with diarrhea. Therefore, the knowledge can be used in treating diarrhea to children under five (Efendi, F & Makhfudli, 2009).

Knowledge of Medication Treatment

The results showed that the mothers' knowledge belonged to the adequate category. It was influenced by the knowledge possessed by the rural communities in providing medication when the child had diarrhea which was more than traditional way. This was in line with the data during the preliminary study. At that time, the interview was conducted to seven mothers with children suffering from diarrhea, 5 of 7 mothers stated that the child was given boiled guava leaves in advance to cope with diarrhea. Furthermore, the results of the questionnaire showed that there were more mothers answered correctly about the treatment of diarrhea by giving guava leaves than by giving ORS. Therefore, the mothers' knowledge in giving medication was in the adequatecategory.

Knowledge of fluid Treatment

The results showed that mothers' knowledge was in the poor category. It was inversely proportional to the knowledge of the mother in providing nutrients. It could be influenced by the experience of the mother in treating diarrhea with no fluids or less information. Therefore, the mothers' knowledge cannot be used for

treating diarrhea to children under five, because the mothers' knowledge was still in the poor category. Whereas, the fluid treatment was crucial in cases of diarrhea, due to lack of fluids in children with diarrhea that can cause both mild to severe dehydration. Dehydration can lead to death if it is not treated promptly, because dehydration is the cause of death in cases of diarrhea (Puspitasari, 2011).

Diarrhea needs a quick treatment so that children do not become dehydrated. The Treatment of diarrhea by giving fluids, nutrients and medication were very important that can be used as an attempt to prevent dehydration either mild, moderate, or severe. By providing information in preventing diarrhea to children under five through counseling was expected to increase the knowledge and experience of mothers in treating diarrhea. Furthermore, with this information the mother had good knowledge in treating diarrhea to children under five either in nutrition, medicine or liquid treatment. The knowledge possessed by the mother as well as information was obtained from non-formal experience such as magazines and television. The level of knowledge was influenced by several factors, such as: internal (experience, age, education level, faith), while external factors (resources, income, socio-cultural) (Notoatmodjo, 2003).

CONCLUSIONS AND SUGGESTIONS

The level of mothers' knowledge in treating diarrhea to children under five was still in the adequate category. In terms of nutrition, mother's level of knowledge was good in treating diarrhea. In the case of medication, the level of knowledge of mothers in treating diarrhea was still in the adequate category. In the case of fluids, the level of knowledge of mothers in treating diarrhea was still in the poor category. For mothers and PHC in the region, it was suggested to actively seek information about the diarrhea treatment to children under five in order to improve knowledge of mothers in treating diarrhea. As well as for PHC and health workers, especially nurses were supposed to be able to provide health promotion in treating diarrhea appropriately, such as providing information about the treatment of diarrhea to children under five by giving fluids, nutrients and medication in order to improve the mother's knowledge. For further research, this study only examined the mother's level of knowledge in treating diarrhea. It was not about how the level of knowledge in the prevention of diarrhea was. For further research, it was expected to be able to do research on maternal knowledge in the prevention of diarrhea using fluids, nutrients and medications treatment.

REFERENCES

- Agtini, M. D. (2007). *Morbiditas dan mortalitas diare pada balita di Indonesia tahun 2000-2007*.
- RisKesDas. Retrieved from <http://www.depkes.go.id>.
- Dinas Kesehatan Kabupaten Grobogan. (2013). *Profil Dinas Kesehatan Kabupaten Grobogan*. Grobogan: Dinas Kesehatan Kabupaten Grobogan.
- Efendi, F & Makhfudli. (2009). *Keperawatan kesehatan komunitas teori dan praktik dalam keperawatan*. Jakarta: Salemba Medika.
- Hidayat, A. A. (2008). *Pengantar ilmu kesehatan anak untuk pendidikan kebidanan*. Jakarta: Salemba Medika.

- Muaris, H. (2006). *Bekal sekolah untuk anak balita*. Jakarta: Gramedia Pustaka Utama.
- Notoatmodjo, S. (2002). *Metodologi penelitian kesehatan*. Jakarta: Rineka Cipta.
- Notoatmodjo, S. 2003. *Metodologi penelitian kesehatan. Edisi 2*. Jakarta: Rineka Cipta.
- Puskesmas Wirosari 2. (2013). *Profil Kesehatan Puskesmas Wirosari 2*. Grobogan: Puskesmas Wirosari 2.
- Puspitasari, I. (2011). *Cerdas mengenali penyakit dan obat*. Yogyakarta.
- Soetjiningsih. (2001). *Tumbuh kembang anak*. Jakarta : EGC.
- UNICEF-WHO. (2009). *Diarrhoea: Why children are still dying and what can be done*.
- Werdiningih, A. T. A. (2012). *Peran ibu dalam pemenuhan kebutuhan dasar anak terhadap perkembangan anak usia prasekolah*. Retrieved from <http://puslit2.petra.ac.id/ejournal/index.php/>
- Wong, D. L. (2009). *Buku ajar keperawatan pediatrik*. Edisi 6. Cetakan I. Jakarta: EGC.
- World Health Organization (WHO). (2005). *The treatment of diarrhoea a manual for physicians and other senior health workers*. Retrieved from [http://www.who.int/whqlibdoc.who.int/.../2005/9241593180.pdf](http://www.who.int/whqlibdoc/who.int/.../2005/9241593180.pdf)

NURSING DOCUMENTATION GUIDELINES ON IMPROVING THE QUALITIES OF THE NURSING DIAGNOSIS, OUTCOME AND INTERVENTION

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ABSTRACT

Background: Nursing documentation is a nurse's responsibility. The process in the document filling must be done properly. However, the documents whose content is incomplete and inappropriate are still found. Therefore, the guidelines on writing the documentation should be given.

Objective: To improve the qualities of the nursing diagnosis, outcome, and intervention by using the nursing documentation guidelines.

Methods: This research used quasi-experimental with pre-test post-test in one group design. The population was all the nurses who were working at RSI Sultan Agung Semarang (N = 112 nurses). The consecutive sampling method was used with 30 respondents as the samples. The data were collected through a questionnaire and analyzed by using a paired t-test.

Results: The results of the study showed that 60% of the respondents stated that the flip chart guidelines on the nursing care assisted the nurses in determining the nursing intervention, 63.3% of the respondents said that the nursing interventions to the flip chart guidelines on the nursing care documentation were appropriate and could be applied to the patients, and 63.3% of the respondents stated that the quality of the nursing care documentation was increased after using a flip chart guidelines on the nursing care documentation.

Conclusions: The results of the statistical test concluded that the variables had a significant result. The significance value was 0.000 which was less than the value of alpha α (0.05). Therefore, it can be concluded that the guidelines on the nursing care documentation was effective in improving the qualities of the nursing diagnosis, outcome, and intervention.

Keywords: documentation, nursing, guidelines, quality

BACKGROUND

Nursing documentation is a recording and reporting proof owned by nurses in the care records that is useful to the interests of the clients, nurses, and medical teams in providing the health care on the basis of accurate and complete data in a written form as a nurse's responsibility (Wahid & Suprpto, 2012). The documentation is generally less preferred by the nurses because it is considered as too complicated, diverse, and time-consuming. However, the nursing

documentation which is not done properly, completely, and accurately can reduce the quality of the nursing care because it cannot identify the extent of the success level of the nursing care that has been given. In the legal aspect, the nurses do not have a written proof if the patients demand for the dissatisfaction with the nursing care (Nursalam, 2012).

Professional nurses are faced with a demand for higher responsibility and accountability for any actions taken. It means that nursing interventions provided to the clients must be avoided from the occurrence of the negligence by conducting nursing process approach and accurate and proper documentation (Nursalam, 2001). As a material for the nurses' responsibility and accountability to the clients, societies, and governments, all the steps in the nursing process must be documented properly (Ali, 2010). Related to the thing mentioned above, RSI Sultan Agung Semarang always makes serious efforts to meet the needs of the implementation of a good nursing process and nursing care document. Although the nursing care documents are indispensable for the interests of the patients and nurses. However, the equipment of the document filling is still lacking in grabbing the attention. Thus, the nursing care documents whose content is incomplete or inappropriate with the patients' condition are still found.

The results of a preliminary study on the writing of the nursing care documentation showed that some problems and obstacles were still found. The data obtained through interviews with the person in charge and supervisors showed that the writing of the nursing diagnosis and intervention has not been uniform and incomplete. The questionnaire results described that 98% of the respondents stated that they needed the preparation of a new standard of nursing documentation, 98% of the respondents said that the documentation in the form of checklist was easier than narration, and 80% of the respondents stated that the filling time was less effective and efficient with the available method and format in the hospitalization room. That results illustrated that the nurses of RSI Sultan Agung Semarang had a perception that the nursing care documentation in the form of a checklist was expected to be more effective and efficient than the narration nursing care model.

The samples of the nursing care documents in the hospitalized patients showed an incomplete content, especially on the nursing diagnosis, outcome, and intervention parts. The nurses fill more in the implementation column. It was very reasonable because the implementation was a monitoring activity that has been conducted on a patient. From the exposure to the problem above, it could be concluded that the writing of the nursing care documentation still became a problem in RSI Sultan Agung Semarang. In this regard, it was necessary to conduct a research on the methods that could improve the nurses' understanding in preparing the nursing diagnosis, developing the criteria of the results, and choosing the appropriate nursing intervention.

OBJECTIVE

The research conducted aimed to investigate the effectiveness of using a flip chart of the guidelines on the nursing care documentation, especially in the improvement on the writing of the nursing diagnosis, the criteria of the results, and the nursing intervention.

METHODS

The research method used was quasi experimental research with *One-Group Pretest-Posttest Design* as the research design. The population was hospitalized nurses in RSI Sultan Agung Semarang with a total of 112 nurses. The sampling method used was *non probability sampling* with *consecutive sampling*. The number of the samples were 30 nurses who met the criteria of being the permanent employees, having working period of more than three years, and having a minimum of D III Nursing Education.

The research procedures were conducted through the preparation stage, the implementation stage, and the final stage. The preparation stage was conducted through the examination of the mastery of the concepts, preparation of the instruments, and preparation of the guidelines on the nursing care documentation. The guidelines preparation was based on the nursing diagnosis of NANDA 2012-2014, the criteria of the results of NOC 4th Edition, and the nursing intervention compiled from NIC 5th Edition. The implementation stage was carried out through administering pre-test, giving the socialization of the guidelines, distributing the guidelines to each hospitalized room, conducting direct discussion about the guidelines use, and administering post-test. The final stage was done through conducting analysis and discussion as well as drawing conclusions of the research. Data analysis was performed by calculating the scores of the pre-test and the post-test and then analyzing it by using a *paired t-test*.

RESULTS AND DISCUSSION

Nursing documentation problems found are the completeness and the appropriateness of the nursing care contents. Interventions were done to resolve the problems in the nursing care documentation, such as preparing the writing guidelines on the nursing diagnosis, the criteria of the results, and the nursing intervention. The objective of the guidelines preparation was to help the nursing care documentation to be implemented optimally according to the standard. The targets of the activities were Penjab (nurse manager), the team leader, and the nurses. The activities done were 1) the standard preparation of the nursing care documentation, 2) the preparation of the writing guidelines on the nursing care documentation, 3) the refreshing of the nursing care documentation, 4) the implementation of the nursing care documentation in each hospitalization, and 5) the supervision and the evaluation of the nursing care documentation

The activities of the preparation of the writing guidelines on the nursing care documentation were done on 25 – 30 September 2014. The preparation was based on the nursing diagnosis of NANDA 2012-2014, the criteria of the results of NOC 4th Edition, and the nursing intervention compiled from NIC 5th Edition. The resulting guideline was in the form of a flip chart. It was considered as more effective because it was easier to use and more interesting to read. Based on the interview with Penjab, the nurses would be lazy to open it if it was in a book form.

The next activity after the preparation of the guidelines was the refreshing of the materials of the nursing care documentation and the socialization of the writing guidelines on the nursing care documentation with its targets were the

representatives of the head of the room and the nurses from each hospitalization room. This activity aimed to increase the awareness of the legal aspects of the nursing care documentation and the understanding of the writing of the nursing care documentation. The evaluation result of this activity was that the participants asked about how to prepare/formulate more operational nursing diagnosis and intervention.

Flipchart guidelines that had been approved by the Nursing Manager then distributed to each hospitalization room. Before the distribution was done, the identification of the nursing problems that often occur had conducted so that the contents of the guidelines could be matched with the needs of each room. By the time the distribution was done, the discussion about the use of the flip chart guidelines and the socialization technique for the nurses was done with Penjab. The implementation of the nursing care documentation in each hospitalization room was held on 3 - 9 October 2014. Then, the supervision and the evaluation of the nursing care documentation were held on 10 – 11 October 2014.

The results of the pre-test showed that 63.3% of the respondents sometimes had difficulties in filling the format of the narration nursing care, 43.3% of the respondents often needed a practical guideline on the writing of the nursing diagnosis, 40% of the respondents often needed writing guidelines on the nursing care documentation and the 13.3% of the respondents often had doubts when they wrote the nursing diagnosis. Those results illustrated that the nurses still had difficulties in the writing of the nursing diagnosis and needed the guidelines to write the nursing diagnosis. The impact of these difficulties could be in the form of the boredom and the lack of motivation for completing the nursing care documentation. A total of 50% of the respondents said that they often got bored in writing long nursing care documentation. The results of the Yusuf's study (2013) showed that there was a significant effect of the knowledge (p value = 0.004), the motivation (p value = 0.001), and the workload (p value = 0.001) on the implementation of the nursing care ($p < 0.05$; $\alpha = 0.05$).

Talking about the time effectiveness aspect, 63.3% of the respondents said that sometimes they needed long time to formulate the nursing diagnosis, 10% of the respondents stated that they often needed time more than 15 minutes for the documentation, 53.3% of the respondents said that the guidelines always make the time for writing the nursing care become shorter, and 50% of the respondents stated that the presence of the flip chart guidelines of the nursing care documentation always make the writing of the nursing care become faster. The good level of knowledge and understanding could improve a person's ability to accomplish his tasks well. The knowledge had a significant effect on the implementation of the nursing care (Yusuf, 2013).

The study conducted by Pribadi (2009) stated that there was a significant relationship between knowledge (p value = 0.007), motivation (p value = 0.001), and perception (p value = 0.007). Another study carried out by Diyanto (2007) showed that the implementation of the filling of the nursing care documentation was 48% in the less category, 35% in the moderate category, and 17% in the good category. The large proportion of the questionnaire filling was less in describing the quality of an unfavorable nursing care. The quality assessment of the nursing care could be seen from the completeness of the filling of the nursing care

documentation or the appropriateness in the writing between the data of the nursing diagnosis assessment, the preparation of the results of the criteria, and the selection of the nursing intervention.

The data of the interview results were then proved through observation and questionnaire. The observation results in the hospitalization room showed that the preparation of the nursing diagnosis was less appropriate to the focus data written and the independent nursing intervention had not been written. The questionnaire results described that 98% of the respondents stated that they needed the preparation of a new standard of nursing documentation, 98% of the respondents said that the documentation in the form of checklist was easier than narration, and 80% of the respondents stated that the filling time was less effective and efficient with the available method and format in the hospitalization room. Those results illustrated that the nurses of RSI Sultan Agung Semarang had a perception that the nursing care documentation in the form of a check list was more effective and efficient than the narration nursing care model. The study carried out by Wira (2010) indicated that the average quality of the nursing care before the implementation of the nursing process documentation of the checklist system in the assessment, nursing diagnosis, and intervention stages was 22.50%, while the average quality of the nursing care after the implementation of the nursing process documentation of the checklist system was 60.00%, meaning that there was an increase in the quality of the nursing care after given intervention. That study concluded that the nursing process documentation of the checklist system was effective in the assessment, nursing diagnosis, and intervention stages.

The quality of the nursing care documentation still needed to be improved so that it could be used as a communication tool with other health professions. A total of 467% of the respondents stated that the doctors were rarely interested in reading the nursing care of the nurses. The quality could be improved by conducting a structured nursing care audit by using a standard format so that it could be measured.

The results of the study on the implementation of the nursing care process in RSUD Prof. Dr. Aloi Saboe in Gorontalo City were closely connected to the nurses' knowledge and the availability of the documentation guidelines/formats (Limonu, 2013). This was in line with the results of the researcher's study which showed that 56.7% of the respondents stated that the flip chart guidelines on the nursing care documentation could facilitate the nurses in providing the health care, 56.7% of the respondents said that they were always sure about the writing truth after the presence of the flip chart guidelines on the nursing care documentation.

The guidelines compiled by the researcher also received positive responses from the respondents. A total of 53.3% of the respondents said that the flip chart guidelines on the nursing care documentation was easily understood in its use and 0% of the respondents stated that they always or often had difficulties in using the guidelines, 50% of the respondents said that the flip chart guidelines were appropriate to the needs of the nurses in writing the nursing care, 60% of the respondents stated that the flip chart guidelines on the nursing care documentation assisted the nurses in determining the actions to be done to the patients, 63.3% of the respondents said that the nursing interventions to the flip chart guidelines on

the nursing care documentation were appropriate and applicable to the patients, 43.3% of the respondents said that the writing of the nursing interventions based on NIC had been appropriate to the patients' condition in RSI, 53.3% of the respondents stated that the data analysis of the patients became easier with the presence of the chart guidelines on the nursing care documentation, 53.3% of the respondents said that they found it helpful in determining the achievement targets of the results of the nursing actions after the presence of the chart guidelines on the nursing care documentation, 63.3% of the respondents stated that the contents quality of the nursing care were always better after the presence of the chart guidelines on the nursing care documentation, 60% of the respondents said that it was often that the writing of the nursing diagnosis in the flip chart guidelines was appropriate to NANDA and easy to be understood, 63.3% of the respondents said that it was often that the preparation of the nursing interventions in the flip chart guidelines was appropriate to NIC and easy to be understood, and 60% of the respondents stated that the formulation of the criteria of the results in the flip chart guidelines was appropriate to NOC and could be measured.

A total of 53.3% respondents said that the guidelines in the form of a flip chart were easier to use as a reference and 56.7% of the respondents often feel satisfied with the writing of the nursing care after the presence of the chart guidelines on the nursing care documentation. The result of the mean of the pre-test was 55.67, while the post-test was 87.97. The results of the *paired t-test* showed the *t* value of -13.121 and the significance value of 0.000 with the *p* value > 0.05 (95% confidence), meaning that there was a difference between the before and after administration of the guidelines on the nursing care documentation on the writing of the nursing diagnosis, the criteria of the results, and the nursing intervention. Flip chart guidelines were effective to improve the ability to write the nursing diagnosis, formulate the criteria of the results, and choose the appropriate nursing intervention.

CONCLUSIONS AND SUGGESTIONS

The results of the *paired t-test* showed the *t* value of -13.121 and the significance value of 0.000 with the *p* value > 0.05 (95% confidence), meaning that there was a difference between the before and after administration of the guidelines on the nursing care documentation on the writing of the nursing diagnosis, the criteria of the results, and the nursing intervention. Flip chart guidelines were effective to improve the ability to write the nursing diagnosis, formulate the criteria of the results, and choose the appropriate nursing intervention.

The suggestions and follow up activities that we have proposed were as follows. For the short term, it was the mentoring activity of the writing of the nursing care for the nurses. For the medium term, it was proposal for the nursing care documentation form in the form of checklist. For the long term, it was the application of the management system of the nursing information with computer-based nursing care writing and the evaluation (audit) of the nursing care quality with a standard form so that the quality can be well monitored and measured.

REFERENCES

- Ali, Z. 2010. Dasar-dasar Dokumentasi Keperawatan. Jakarta: EGC
- Dermawan, D. 2012. Proses Keperawatan Penerapan Konsep dan Kerangka Kerja. Yogyakarta: Gosyen Publisng.
- Dharma, Kelana Kusuma. 2011. Metodologi Penelitian Keperawatan: Panduan Melaksanakan Dan Menerapkan Hasil Penelitian. Jakarta: Trans Info Media.
- Diyanto, Yahyo. 2007. Analisis Faktor – Faktor Pelaksanaan Dokumentasi Asuhan Keperawatan Di Rumah Sakit Umum Daerah Tugurejo Semarang. Universitas diponegoro. Diakses pada tanggal 13 Oktober 2013 melalui <http://eprints.undip.ac.id/>
- Limonu, Febriana. 2014. Faktor-faktor yang berhubungan dengan pelaksanaan pendokumentasian proses asuhan keperawatan diruang bedah Rsud Prof dr.Aloei Saboe Kota Gorontalo. Diakses pada tanggal 13 Oktober 2013 melalui <http://eprints.ung.ac.id/5285/>
- Nursalam. 2001. Proses dan Dokumentasi Keperawatan: Konsep dan Praktik. Jakarta:Salemba Medika.
- Nursalam. 2012. Manajemen Keperawatan Aplikasi dalam Praktek Keperawatan Profesional Edisi 3. Jakarta: Salemba Medika.
- Pribadi, Agung. 2009. Analisis Pengaruh Faktor Pengetahuan, Motivasi, dan Persepsi Perawat Tentang Supervisi Kepala Ruang Terhadap Pelaksanaan Dokumentasi Asuhan Keperawatan di Ruang Rawat Inap RSUD Kelet Provinsi Jawa Tengah di Jepara. Universitas diponegoro. Unpublished.
- Rahmad Yusuf, 2013. Analisis Faktor-Faktor Yang Mempengaruhi Penerapan Asuhan Keperawatan Di Ruang Interna Rumah Sakit Umum Daerah Prof. Dr. H. Aloei Saboe Kota Gorontalo. Universitas Negeri Gorontalo. Diakses pada tanggal 13 Oktober 2013 melalui <http://kim.ung.ac.id/index.php/KIMFIKK/article/view/2808>
- Wahid, A. & Suprpto, I. 2012. Dokumentasi Proses Keperawatan. Yogyakarta: Nuha Medika.
- Wira, Marda. 2010. Efektifitas Penggunaan Sistem Check List Dalam Dokumentasi Proses Keperawatan Terhadap Kualitas Asuhan Keperawatan Pada Tahap Pengkajian, Diagnosa Keperawatan dan Intervensi. Universitas Riau.

FACTORS AFFECTING FAST FOOD CONSUMPTION BEHAVIOR IN STUDENTS OF NURSING FACULTY OF MEDICINE DIPONEGORO UNIVERSITY

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ABSTRACT

Background: Lifestyle changes of modern society affect the diet tendency to consume fast food. Fast food processed in restaurants mostly contains limited nutrient. Mostly it contains fat which gives a significant contribution to the risk of disease. The risk the food is not processed according to the standard quality of health.

Objective: The aim of this research was to know the quick service, ease of access, low price, good taste, high nutrition content, and a means of socializing as factors that affect the behavior of fast food consumption.

Methods: The study is a descriptive survey research of 78 nursing students in Diponegoro University taken by accidental sampling technique.

Results: The result showed that means of socializing was the most dominant factors affecting in consuming fast food. Other results showed quick service affecting respondent (60,3%), ease of access (55,1%), low price (60,3%), good taste (60,3%), high nutrition content (51,3%), and a means of socializing (67%) as significant factors that affect the participants' behavior of fast food consumption.

Discussion: Nursing students who generally have a very high activity that takes their time to eat would be greatly helped by the fast service offered by the diner/fast food restaurant. Ease of access make students do not need to spend a lot of cost for transportation to fulfill the needs of eating. The more affordable the price, the greater the purchasing decisions of the consumers conducted.

Recommendation for further research is to investigate the attitude and effort of modern society to improve the quality of food consumption.

Keywords: Fast food, consuming behavior, student

BACKGROUND

Changes in people's lifestyles in the industrial era influence the diet and the availability of a variety of food stalls practically fast food around the community. There were around 98.3% students who said that they consumed fast food in restaurants with the frequency of 2-5 times in one month (Wijaya, 2005). Practical food that is ready to be processed and served is commonly referred to as fast food. Fast food prepared in the restaurants or food stalls generally contain limited

nutrients, fat and high sodium (Khomsan, 2004). Most fast food contain fat that can contribute greatly to the risk of disease, including high blood pressure, high cholesterol, uric acid, and coronary heart disease.

Consuming fast food in the long term will certainly affect the health status of individuals. A researched by Yuliarti (2007) stated that fast food generally processed in restaurants and food stalls usually contains additives such as monosodium glutamate (MSG). The substance is a food seasoning that can make the food tastes more delicious. A study conducted by Singh (2003) found that the effect of MSG may interfere the metabolism of lipids and anti-oxidant enzyme activity in the blood vessels, and lead to the risk of hypertension and heart disease.

The maximum consumption of MSG in a day is 2.5 - 3.5 grams (weight of 50-70 kg). Most restaurants or fast food stalls do not notice to the dose administration of this MSG, more over for soupy food. In fact, traders no longer measure the dose with the spoon but directly spill MSG from the pouch packaging (Ardiyanto, 2004).

Consumers generally choose fast food served at the restaurants or food stalls because the service is fast without considering the process. Besides, there is also a risk coming from the food processing that does not comply with the quality standards of health. The food processing such as unqualified selection of raw materials, imperfect process of cooling down the, or cooking the food, reheating the food at a temperature below 60 ° C can change the content of food (Yuliarti, 2007). Most restaurants or food stalls usually fry the food with the same cooking oil over and over, whereas frying is way that can generate trans-fats that would be detrimental for health if taken continuously (Sartika, 2009).

A preliminary study found as many as 6 nursing students consumed fast food at the “penyet” restaurant 5-6 times a week, and 2 students ate fast food 2-3 times a week. This phenomenon increased the curiosity of the researchers regarding what factors influencing the consumption behavior of fast food in nursing students of the Faculty of Medicine, Diponegoro University in 2014.

METHOD

This research is a quantitative study using descriptive survey design. The population in this study was the regular nursing students in the academic year 2014. The sampling technique used was accidental sampling which involved 78 students. The study was conducted at the School of Nursing Faculty of Medicine, Diponegoro University. The data were collected from 26 to 30 May 2014. This study used two questionnaires, consisting of questionnaires A and B. The instruments used by the researchers were already through validity and reliability testing. The results of validity test showed 3 invalid questions with $r > 0.05$. The reliability testing obtained Cronbach's Alpha value of 0.735. The inclusion criteria of this study involved respondents who are regular students from grade 2013 to 2010, ever consume fast food, and live in boarding houses. A univariate analysis was used to analyze the data. The univariate analysis was also used to analyze the variables that exist in description displayed in the form of frequency of distributions and proportions to obtain an overview in the form of tables and diagrams based on gender, age and factors affecting students in consuming fast food.

RESULTS

Table 1.1 shows the student age ranging from 17-20 for 43 students (55%), and 21-24 years for 35 students (45%). Male gender students were 21 (27%) and female students were 57 (73%). Living allowance > IDR 1.423.500 was found on 4 students (5%) and allowance < IDR 1.423.500 was found on 74 students (95%).

Table 1.1 Distribution of characteristics of the respondents of the Nursing Students Faculty of Medicine, Diponegoro University in June 2014 (n = 78)

| Variables | Total (n) | Percentage (%) |
|------------------|-----------|----------------|
| Age | | |
| 17-20 | 43 | 55 |
| 21-24 | 35 | 45 |
| Total | 78 | 100 |
| Gender | | |
| Male | 21 | 27 |
| Female | 57 | 73 |
| Total | 78 | 100 |
| Allowance | | |
| > 1.423.500 | 4 | 5 |
| < 1.423.500 | 74 | 95 |
| Total | 78 | 100 |

Table 1.2 shows the frequency of fast food consumption, mostly done 3-4 times a week by 33 respondents (42.3%).

Table 1.2
Fast Food Consumption frequency distribution of Nursing students, Faculty of Medicine, Diponegoro University in June 2014 (n = 78)

| Frequency | Total (n) | Percentage % |
|------------------|-----------|--------------|
| 1-2 times a week | 22 | 28,2 |
| 3-4 times a week | 33 | 42,3 |
| 5-7 times a week | 14 | 17,9 |
| > 7 times a week | 9 | 11,5 |
| Total | 78 | 100 |

Table 1.3 shows a very influential factor for respondents in consuming fast food which is the quick service with 47 respondents (60.3%), ease of access with 43 respondents (55.1%), low prices with 47 respondents (60.3%), good taste with 47 respondents (60.3%), the nutrient content with 40 respondents (51.3%), and means of socializing with 52 respondents (67%).

Table 1.3

The factors affecting the fast-food consumption behaviour in Nursing Students
Faculty of Medicine Diponegoro University in June 2014 (n = 78)

| No | Factors | Highly Affecting | | Less Affecting |
|----|----------------------|------------------|------|------------------|
| | | Frequency (n) | % | Frequency (n) |
| 1 | Quick service | 47 | 60,3 | 31 |
| 2 | Ease of access | 43 | 55,1 | 35 |
| 3 | Low price | 47 | 60,3 | 31 |
| 4 | Good taste | 47 | 60,3 | 31 |
| 5 | High nutrient | 40 | 51,3 | 38 |
| 6 | Means of socializing | 52 | 67 | 26 |

DISCUSSION

Factors that influence the behavior of fast food consumption among others are quick services (60.3%), ease of access (55.1%), low prices (60.3%), good taste (60.3%), high nutrients content (51.3%), and means of socializing (67%). Service is an activity that occurs in the direct interaction between a person with other or with a machine physically and provides customer satisfaction (Zulganef, 2006). Fast service is a facility provided by the provider of services such as food stalls / restaurants in serving fast food quickly so that customer satisfaction can be met. Quick service facilities is one of the enabling factors that can influence the behavior of individuals to consume fast food (Lukman, 2000).

Quick service affects 60.3% respondents. Nursing students who generally have a very high activity that takes their time to eat would be greatly helped by the fast service offered by the diner/fast food restaurant. Limited lunch time, the meeting/event lectures on campus and a tight schedule make students have a tendency to consume fast food so that their needs can be met (Surjadi, 2013).

As many as 55.1% of respondents stated that ease of access affects the consumption of fast food. It is in line with the research conducted by Oetomo which found that the strategic location will enhance the interest of buying. In this case, the affordability of access in fast food purchases can increase the buying interest on the individuals that will finally form a behavior (Oetomo, 2012). The results of observations in the Nursing Campus of Diponegoro University found that there are 5 food stalls located in front of the campus that makes it very easy for the students to get the fast food. There are many fast food stalls around the District of Tembalang where most students live in the area. Thus, students do not need to spend a lot of cost for transportation to fulfill the needs of eating.

Additional food ingredients in fast food such as MSG will create a tasty and delicious taste in food (Yuliarti, 2007). According to the theory of Green, when an individual has the perception of good taste, it can increase the appetite which will drive the individual to have more interest in food. Then he is trying his new behaviors that is consuming fast food and eventually form the behavior of consuming fast food (Notoatmojo, 2007). Most respondents are aged 17-20 years and have the characteristics of eating behavior that promotes freshness, delicacy, appearance and presentation of food rather than considering the nutritional value (Fradjia, 2008). This study was in line with Wijaya which found 40% of

respondents stated that quality of delicious taste in fast food is the reason for them to consume fast food (Wijaya, 2005).

Price has a positive influence on the repurchase intention, so the more affordable the price, the greater the purchasing decisions of the consumers conducted. Cheap prices at the diner / fast food restaurant will affect consumer to repurchase (Oetomo, 2012). The characteristics of the majority of respondents (95%) who has an allowance < IDR 1.423.500 will certainly affect the respondents in determining the price of food as daily consumption.

Results of observations found that students have unexpected needs such as copying files, printing so many files for tasks, buying books/tools to support study, paying for workshop/training and so on. These will make students more rigorous in managing their finance. Students tend to choose to consume the food at the diner/ fast food restaurant that provides low prices to meet the needs of eating. The food would be of a high interest because it is affordable for the pocket money of the students (Mufidah, 2006).

Most of respondents are aged between 17-20 years. The students who are aged between the late teens and young adults tend to have more frequent outdoor activities such as attending extra-curricular activities or organization. The task of social development in adolescence is learning to build relationships with peers in more mature way. Intensity of activity done together with peers in the student may become the main reference in terms of perceptions and attitudes related to the student's own lifestyle (Papalia, 2007).

Consuming fast food is can be one of the factors reinforcing based on the theory of Green. The reinforcing factors encourage or strengthen an individual to consume fast food as well as to establish social relationships with peers (Notoatmojo, 2007). Motivation to consume fast food as a means of socializing shows the most dominant factor in 67% respondents. This is in line with the study conducted by Ristianti which mentioned that the characteristics of students who have their teens desperately need the means to socialize. Teenagers who are in the phase of search of self-identity need peer support to be able to support each other (Ristianti, 2008).

Means of socializing can be found when dining together in a restaurant or food stalls. Mufidah states that eating at a fast food restaurant can be a means to gather and socialize because it can create a relaxed and friendly atmosphere. Eating at fast food restaurants can also foster relationships that is the key of social relations. Eating together develops the communication between one another, and thus gives a rise to a social bond (Mufidah, 2006).

The study conducted by Surjadi (2013) showed that students would assume the food is healthy when it is fresh, prepared on that day, consumed using eating utensils, and the place to sell the food is clean, no flies and no attention to nutritional content on foods (Surjadi, 2013). A research by Yoon (2008) also showed that teens do not consider about the nutritional value and do not take care when choosing fast food. They are less aware of the effects of fast food on the health and nutritional status (Yoon, 2008). Perception of high nutrient content in fast food also contributes to the stages of the process in forming an attitude. In this case, the respondents also had a realization that fast food also has nutritious ingredients that led to an interest in taking it. Next is the individual evaluation

whether the food is good or not. However, if the individual perceives fast food as a healthy food, this will then encourage him to continue trying the food and make it as a behavior (Notoatmojo, 2007).

CONCLUSION

Factors that influenced the behavior of respondents in the consumption of fast food were quick services (60.3%), ease of access (55.1%), good taste (60.3%), low prices (60.3%), means of socializing (67%) and high nutrient content (51.3%). The study found that a means of socializing was the most dominant factor influencing the respondents among the other factors. It is suggested for further researches to study about the attitude and efforts of modern society to improve the quality of the consumed food.

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REFERENCES

- Ardiyanto, TD. (2004). *MSG dan Kesehatan: Sejarah, Efek dan Kontroversinya*. Pathology Departement, Tottori University School of Medicine Japan Laboratorium Patologi Klinik. Fakultas Kedokteran Universitas Sebelas Maret Surakarta, Indonesia.
- Fradjia, NP. (2008). *Hubungan Antara Citra Raga dengan Perilaku Makan Pada Remaja Putri*. Skripsi. Fakultas Psikologi Universitas Muhammadiyah Surakarta.
- Khomsan. (2004). *Pangan dan Gizi untuk Kesehatan*. Jakarta: PT Rajagrafindo Persada.
- Lukman, S. (2000). *Manajemen Kualitas Pelayanan*, Jakarta : STIA LAN Press.
- Mufidah, NL. (2006). *Pola Konsumsi Masyarakat Perkotaan Studi deskriptif Pemanfaatan Foodcourt oleh keluarga*. Jurnal. BioKultur, Vol.I/No.2/Juli-Desember.
- Notoatmojo, S. (2007). *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta: Rineka Cipta,
- Oetomo.R. (2012) *Analisis pengaruh keragaman menu, persepsi harga dan lokasi terhadap minat beli ulang konsumen*. Sripsi. Fakultas Ekonomika Dan Bisnis Universitas Diponegoro Semarang.
- Papalia, D, et.al. (2007). *Human Development*. New York: McGraw-Hill.
- Risianti, A. (2008). *Hubungan antaradukungan sosial teman sebaya dengan identitas diri pada remaja di SMA Pusaka 1 Jakarta*. Jurnal Fakultas Psikologi Universitas Gunadarma
- Sartika, RAD. (2009). *Pengaruh Suhu dan Proses Menggoreng (Deep Frying) Terhadap Pembentukan Asam Lemak Trans*. Makara, Sains, Vol. 13, No. 1, April 23-28
- Surjadi, C. (2013) *Globalisasi dan Pola Makan Mahasiswa Studi Kasus di Jakarta*. CDK-205/ vol. 40 no. 6.

- Singh, K. and Ahluwlia, P. (2003). *Studied on the effect of monosodium glutamate (MSG) administration on some antioxidant enzymes in the arterial tissue of adult male mice. J Nutr Sci Vitaminol (Tokyo)*. Apr;49(2):146-8
- Wijaya, S. (2005). *Studi Eksploratif Perilaku Mahasiswa UK. Petra dalam Memilih Fast Food Restaurant dan Non-Fast food Restaurant di Surabaya*. jurnal manajemen Perhotelan, Fakultas Ekonomi- Universitas Kristen Petra.
- Yoon, J et al. (2008.) *Research Institute of Human Ecology, Dong-a University, 840 Hadan 2-dong, Saha-gu, Busan 604-174*.
- Yuliarti, N. (2007). *Awas! Bahaya Dibalik Lezatnya Makanan*. Yogyakarta: ANDI.
- Zulganef. (2006). *Pemodelan Persamaan Struktur dan Aplikasinya menggunakan AMOS 5*. Bandung : Pustaka.

THE EFFECT OF COGNITIVE STIMULATION THERAPY (CST) TOWARD THE IMPROVEMENT OF COGNITIVE AND QUALITY OF LIFE IN ELDERLY WITH DEMENTIA

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ABSTRACT

Background: The development of elderly population increases, dementia becomes a disease that frequently arise and become a serious illness. On dementia, a decline in cognitive abilities will affect the quality of life. Actions that can be done is through cognitive stimulation such as Cognitive Stimulation Therapy (CST) which will contribute to the improvement of quality of life by delaying dementia and improve their capacity for self-care. Systematic review is necessary to be done in order to see the effect of CST toward cognitive abilities and quality of life of elderly people with dementia.

Methods: Systematic review by conducting search of publication articles in ProQuest, Ebsco, Google scholar, with selected keywords. Searching is limited to the publication in 2000-2014 with format of fulltext PDF. Inclusion criteria: Elderly with dementia, able to communicate well, able to see and hear well, do not have physical illness and disability and exclusion criteria: elderly with cognitive impairment. Appropriate article then analyzed by using an appropriate critical appraisal tool for CRT research to assess the quality of research. Data was extracted from articles and grouped to be discussed and concluded.

Results: The findings of five articles with details 4 articles have high quality and the rest have moderate quality. It is obtained that CST influence on improving the cognitive abilities and quality of life through the activities carried out during 7 weeks with 14 sessions twice a week in the form of face-to-face with duration of 45 minutes. The assessment of cognitive ability is measured by MMSE and the quality of life is measured through QoL-AD

Keywords: Cognitive Stimulation Therapy, Dementia, cognitive ability, quality of life, MMSE, QoL-AD

BACKGROUND

The development of the elderly population increases, dementia becomes a disease that frequently arise and become a serious illness (Creighton, Alexandra S, 2013). Dementia is a syndrome that causes the decline of memory and cognitive abilities, which is quite significant that disturb activities of daily life (American Psychiatric Association, 1994). This shows a general view that lack of cognitive activity accelerates cognitive decline. Memory disorder is the core

symptoms of the earliest and most often occurs in dementia, early intervention aims to slow the cognitive decline. Recent research has focused on developing alternative, nonpharmacological intervention to ease the memory of the cognitive deficits associated with dementia (Creighton, Alexandra S, 2013).

In recent years, researchers have been investigating the use of nonpharmacological therapy to rehabilitate symptoms of dementia and improve the quality of life of people with dementia and their caregivers (Hopper, Tammy. 2013). Olazarán and colleagues (2010) highlights the various nonpharmacological therapies used to treat dementia or mild cognitive impairment, including direct interventions focused on people with dementia, such as cognitive training, physical exercise, music therapy, and reminiscence therapy, also indirect intervention like using companion (caregiver) (for example, education, support).

International studies show that Cognitive Stimulation Therapy (CST) was associated with a reduced risk of cognitive impairment (CI) and should be started as soon as possible (Apostolo, João Luis Alves, et al 2014). Cognitive stimulation is an intervention for people with dementia who offer fun activities provide a general stimulation for thinking, concentration and memory usually in a social setting, such as a small group. Cognitive stimulation therapy (cognitive stimulation therapy (CST)) (Spector et al., 2003) is a version of cognitive stimulation developed on the basis of theory and evidence from the Cochrane review the orientation of reality (Reality Orientation (RO)) (Aguirre, E. 2013). In dementia, cognitive stimulation is used to take advantage of the positive aspects of RO (B Woods, 2012).

CST improve brain and cognitive abilities, reduces the risk of dementia, delaying the onset; thus, indicating that the CST prevent or delay the dependence and the inability for self-care (Apostolo, Cardoso, Marta, and Amaral, 2011). CST early intervention will contribute to the improvement of quality of life by delaying dementia and improve their capacity for self-care (Apostolo, Cardoso, et al., 2014). Quality of life (Quality of life (QoL)) has been identified as an important measure in people with dementia (Kane, 2001).

Based on these studies, it is necessary to do a systematic review that analyzed the effect of Cognitive Stimulation Therapy (CST) toward the improvement of cognitive and life quality in elderly with dementia.

METHOD

The method used was systematic review by searching on the ProQuest articles publication, Ebsco, Google scholar, with keywords: dementia, cognitive intervention, cognitive stimulation therapy. The searching was limited to the publication in 2000-2014 with fulltext PDF format. Inclusion criteria: Elderly with dementia, able to communicate well, able to see and hear well, do not have a physical illness and disability and exclusion criteria: Elderly with cognitive impairment. Appropriate articles were then analyzed by using a critical appraisal tool which appropriate for RCT research results to assess the quality of research. The data was extracted from articles and grouped to be discussed and concluded

Table 1 Extraction of data

| NO | RESEARCHERS | METHODOLOGY | SAMPLE | INTERVENTION | CONTROL | INTERVENTION TIME | INDICATORS AND MEASUREMENTS |
|----|---------------------------------|-------------|---|---------------------------------------|---------------------|--|--|
| 1. | Spector, Aimee, et all (2003) | RCT | n: 292 in accordance with the criteria for inclusion n: 201 treatment n: 115 control n: 86 in accordance with the criteria of exclusion n: 91 | CST consisting of 8-9 people | Don ' t do anything | Consisting 14 session the confluence of two times a week for 7 weeks | <ul style="list-style-type: none"> - Cognitive (MMSE) - Quality of life (<i>The Quality of Life - Alzheimer Disease scale : Qol-AD</i>) - Communication (<i>The Holden Communication Scale</i>) - Behavior (<i>The Clifton Assessment Procedures for the Elderly- Behaviour Rating Scale : CAPE_BRS</i>) - Global function (<i>The Clinical Dementia Raing scale : CDR</i>) - Depression (<i>The Cornell Scale for Depression in Dementia</i>) - Anxiety (<i>The scale Rating Anxiety in Dementia : RAID</i>) |
| 2. | Yamanaka, Katsuo, et all (2013) | RCT | n : 56 Perilaku n n : 26 Kontrol n : 30 | Javanese version of group CST (CST-J) | Don ' t do anything | Twice in a week duration of time during 45 minutes of 7 weeks | Cognitive : <ul style="list-style-type: none"> - MMSE - <i>Neurobehavioral Cognitive Status Examination (COGNISTAT)</i> Quality of life : <ul style="list-style-type: none"> - QoL-AD - <i>Self Administered Health Index (EQ-5D)</i> |

| | | | | | | | |
|----|----------------------------------|-----|--|----------------------------------|---------------------|--|---|
| | | | | | | | Mood : <i>Face scale</i> |
| 3. | Niu, Yi-Xuan, et al (2010) | RCT | n : 32 Perlakuan : 16 Kontrol : 16 | CST | Don ' t do anything | 10 weeks | <i>Neuropsychiatric Inventory (NPI)</i> MMSE |
| 4. | Apóstolo, João Luís Alves (2014) | RCT | n : 56 Perlakuan : 27 Kontrol : 29 | CST consisting of 7-8 partisipan | Don ' t do anything | Consisting 14 session the confluence of two times a week for 7 weeks | Primary outcome : - <i>Cognitif menggunakan Montreal Cognitive Assessment (MoCA)</i> Secondary outcome : <i>Depressive symptoms (The Geriatric depression scale-15 (GDS-15))</i> Covariate : <i>The Barthel ADL Index</i> |
| 5. | Woods, B, et al (2005) | RCT | n : 201 | CST | Don ' t do anything | Consisting 14 session the confluence of two times a week for 7 weeks | - QoL-AD - MMSE - AAS-Cog - <i>Clinical Dementia Rating (CDR)</i> - <i>Cornell Scale for Depression in Dementia (CSDD)</i> - <i>Rating for Anxiety in Dementia (RAID)</i> - CAPE-BRS - <i>Holden Communication Scale</i> |

RESULTS

CST impact on cognitive abilities

Quality of life changes significantly correlated with cognitive improvement, as measured by the MMSE, for the experimental group (0.26 and 0.33 respectively, $p < 0.01$) as well as for the overall sample (0.25 and 0.23, $p < 0.01$). In addition, improved quality of life correlated significantly with increased communication abilities (HCS, 0.17, $p < 0.05$) for the sample as a whole, but not for the group treated separately (Woods, B, et al, 2005).

CST impact on quality life

As indicated previously, the intervention having a significant positive impact on total score 6.87 qol-ad (f , p & it; 0.05) (Spector et al. 2003). There is no significant relationship between one of the first step and change the quality of life except for the sexes (6.79 f , p & it; 0.01 in which women increased more (Woods, B, et al, 2005). A number of gender differences emerged. The quality of life of women in the treatment group rose more than that for men, while the quality of life for men on the control group deteriorated significantly more than that for women. A number of gender differences emerged. The quality of life of women in the treatment group rose more than that for men, while the quality of life for men on the control group deteriorated significantly more than that for women. (Spector, Aimee, et al. 2003).

Table 2. CST impact on cognitive abilities and quality life

| NO | Reseachers | Intervention | Result | P VALUE |
|----|----------------------------------|--------------|---------|---|
| 1. | Spector, Aimee, et all (2003) | CST | Efectif | MMSE P = 0,044 Qol-ad P = 0,028 |
| 2. | Yamanaka, Katsuo, et all (2013) | CST-J | Efectif | MMSE P = 0,003 Qol-ad (Proxy) P = 0,06 Qol-ad (Self) P = 0,6 |
| | Niu, Yi-Xuan, et all (2010) | CST | Efectif | MMSE P = 0,004 |
| 4. | Apóstolo, João Luís Alves (2014) | CST | Efectif | MMSE P = 0,005 |
| 5. | Woods, B, et all (2005) | CST | Efectif | MMSE P = 0,003 Qol-ad P < 0,01 |

DISCUSSION

The purpose of psychosocial interventions for people with early stage dementia basically is rehabilitation. That is, focus on optimizing function and well-being, and to support a person's social system, so as to facilitate the continued involvement and participation. General principles of rehabilitation can be applied to specific domains, including cognitive functioning. Cognition approach focuses on psychosocial intervention in dementia care through the adaptation of reality orientation for use in dementia care settings (Clare, Linda. 2003). Cognitive stimulation is the only non-drug interventions that will be recommended for symptoms of cognitive and maintenance functions. This highlights the importance of CST are offered regularly in service (Cognitive Stimulation Therapy, 2014)

This evidence-based program of cognitive stimulation therapy showed significant improvement in two measures of cognition, including the MMSE (primary outcome measure), and also in the QoL-AD (secondary outcome measures). Improvement in cognition is consistent with the findings of previous studies (Woods, 1979; Breuil et al, 1994). The change of behavior in this study showed significant differences in behavior (Baines et al, 1987)) (Spector, Aimee, et al., 2003).

This is in accordance with the research that has been conducted by Spector, Aimee, et al. 2003 and Woods, B, et al. 2006, that conducted research on improving cognitive abilities, quality of life through the CST. CST was designed through a systematic review of the literature on the main non-pharmacological therapy for dementia. The trial results showed that the CST provide significant benefits in cognitive function, as measured by the Mini-Mental State Examination (MMSE) and the ADAS-COG. This test investigates memory and orientation, but also language and visuospatial ability.

Analysis showed that the improvement in cognition, CST was as effective as some dementia medication. Furthermore, CST led to significant improvements in quality of life, as assessed by the participants themselves by using QoL-AD. There are no reports of side effects from CST. CST is proven to be more cost-effective than usual treatment. There is also some evidence that it may be more cost-effective than dementia treatment (Cognitive Stimulation Therapy, 2014).

The working principle of the CST is mental stimulation, new ideas, thoughts and associations, orientation, both sensitive and implicit, opinions rather than facts, using memento as assistance, providing the trigger for help recall, continuity and consistency between sessions, Implicit (not explicit) learning, language stimulating, stimulates the function of the executive, people-centredness, respect, participation, inclusion, choice, pleasure, maximizing potential, building / strengthening relationships From the working principle of the CST can be developed into several sessions between physical play, sound, childhood, food, current affairs, Face / scene, word association, be creative, categorize objects, orientation, use of money, the numbers game, word games, quizzes team (Cognitive Stimulation Therapy, 2014).

Components of the CST can improve cognitive abilities measured by MMSE and can also improve the quality of life of the elderly with dementia through the QoL-AD. Where in each session elderly gathered in small groups will

then be taught in accordance with the existing programs. So during the allocated time will get results.

CONCLUSIONS AND SUGGESTIONS

Cognitive Stimulation Therapy may affect the improvement of cognitive abilities measured by MMSE and affect the quality of life of elderly people with dementia as measured by the QoL-AD.

It is Expected to be the community health workers, especially nurses who work in health centers and nurses who served in the nursing home to follow training on Cognitive Stimulation Therapy, which will be able to manage the elderly with dementia properly so the life expectancy and quality of life of elderly increases.

REFERENCES

- Apóstolo, João Luís Alves , et all. 2014. The effect of cognitive stimulation on Nursing Home Elders : A Randomized Controlled Trial. Clinical Scholarship. Journal of Nursing Scholarship. 46:3. P. 157-166.
- Clare, Linda. 2003, Cognitive Training and Cognitive Rehabilitation for People With Early Stage Dementia. Cambridge University Press Printed in the United Kingdom. Review in Clinical.13. P. 75-83.
- Niu, Yi Xuan., et all. 2010. Cognitive stimulation therapy in the treatment of neuropsychiatric symptoms in Alzheimer's disease: a randomized controlled trial. Clinical Rehabilitation. 24. P. 1102-1111.
- Raza, Naqvi, et all. 2013. Preventing Cognitive Decline in Healthy Older Adults. Review CME. CMAJ.185 (10). P 881-885.
- Spector, Aimee, *et all.* 2003. Efficacy of an Evidence-Based Cognitive Stimulation Therapy Programme for People With Dementia. British Journal Of Psychiatry. 183. P. 248-254.
- Tsolaki, Magda, et all. 2011. Effectiveness of Nonpharmacological Approaches in Patients with Mild Cognitive Impairment. Neuro-Degenerative Diseases. 8. P. 138-145.
- Woods, B, et all. 2006. Improved quality of life and cognitive stimulation therapy in dementia. Aging & MAnal Health. 10. P. 219-226.
- Yamanaka, Katsuo, et all. 2013. Effects of cognitive stimulatoin therapy Japanese version (CST-J) for people with dementia a single blind, controlled clinical trial. Taylor & Francis. Aging & Mental Health. Vol. 17. No. 5. P. 579-586.
- Anonim. 2014. *Cognitive Stimulation Therapy*. <http://www.cstdementia.com/>. Diunduh tanggal 31 Desember 2014. Jam 05.45 wib.

THE IMPACT BETWEEN PRECEPTORSHIP TOWARDS THE NURSES' ABILITIES IN PROVIDING PSYCHO-SOCIAL NEEDS OF PATIENTS SUFFERING CANCERS

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ABSTRACT

Background: The patients suffering cancers are difficult to maintain the psycho-social adaption towards their sickness. Holistic nurses as the experts have responsibilities to create the healing environment for patients. Some facts reveal that nurses are heading some hindrances in the term of nursing care implementation, especially for analyzing and gaining their intuitive perspectives while helping the patient to fit in their illnesses' triggers. This lack of adaptability influences the achievement of well-being condition if it is considered physically, emotionally, intellectually, socially, and spiritually. Preceptorship has been strived to help the nurses in learning process. Therefore it can lead the competent and professional nurses to fulfill their nursing care optimally.

Purpose: The aim of this systematic review is to evaluate the impact of preceptorship towards the nurses' ability in providing the psycho-social needs of the patients.

Method: This research used critical appraisal method by leveling the evidence based nursing from thesis, dissertation, national as well as international journals.

Result: Preceptorship establishes the critical thinking of holistic nurses' ability as the role models of credential preceptors in the clinical. Clinical critical thinking skills test evaluates the competence achievement of holistic nurses in providing the patients' psycho-social. The critical thinking strategy that is implemented by holistic nurses in solving problems will encourage the potential ability of cancers nursing care.

Conclusion: The impact of preceptorship learning method had been proven enable in encouraging the holistic nurses' ability in providing the psycho-social needs of patients suffering cancers.

Keywords: preceptorship, nurses' ability, psycho-social needs.

BACKGROUND

The patients of cancer suffer the changing of body nature which will influence their self-perceptions in evaluating their physical conditions. This changing will impact their social habits. It is termed by psycho-social adaptability. Psycho-social describes the relation between one's social conditions with her/his emotional health. The psycho-social factors remain the big impacts of patients to achieve their well-being lives optimally (Peters, Goedendorp, Verhagen, Van Der

Graaf, & Bleijenberg, 2014). If the psycho-social conditions towards patients are getting decreased, it could make their illness getting worse. The patients have to ensure their psycho-social adaptability such as assessing how many the patients' dependency level are and how they show their contribution in social-environment in order to actualize their talents. From the accepted stimulus, the patients are hard to meet their psycho-social adaptability. The effects that could be derived from this situation are fatigue, the declining of life quality, insecure, and future uncertainties, and feeling hopeless (Martinez, 2005).

Nurses as the professional have responsibilities to create the healing environment towards patients. Nurses have to be the role models in providing the comprehensive nursing care by helping them encouraging their psycho-social needs as a holistic nursing method. Nurses need to understand every patients personalities and its relation with their illnesses. This has to be maintained to increase the life quality towards patients. Nurses' roles are to provide the nursing care systematically by good data assessment, diagnosis determination, planning, implementation and evaluation. The cancers which suffer chronically lead patients to give their comprehensive nursing care. Nurses have to conduct the critical thinking in implementing several problems of nursing care, especially in analyzing the intuitive task while helping patients to fit in their illnesses stimulus. The psycho-social is the abstract needs. Therefore, it needs the sensitivity of nurses in understanding the further needs of patients. The right analyzes could strive the appropriate intervention results (Sulisno et al., 2012).

Nurses that are unable to analyze the patients' needs influence the well-being achievement physically, emotionally, intellectually, socially, as well as spiritually. One action strived to increase the nurses' ability in providing the psycho-social need is by learning method. Nurses need to grant the practices that direct and gain the critical thinking concepts to excavate natural needs of patients, especially regarding their psycho-social adaptability. Preceptorship is a learning method that can help nurses to increase their competences and professionalism in providing total nursing care toward patients suffering cancers.

PURPOSES

1. General purpose
To understand the impact of preceptorship towards holistic nurses ability in providing the psycho-social needs of cancer patients.
2. Specific Purpose
 - a. To understand the preceptorship application in increasing the critical thinking skill of holistic nurses.
 - b. To understand the nurses ability in providing the patients' psycho-social by increasing critical thinking skills.

METHOD

Systematic review is a synthesis approach of other major studies which defines a particular topic with a clear and specific clinical question formulation, explicit and reproducible searching method, and implementing critical assessment process in selecting the appropriate study as well as communicating its results and implications. Nurse preceptors need the support in performing their roles to

educate and improve clinical learning skills. Although the related articles have not been found, the clear insight about the relation between preceptor and preceptee has been derived.

A literature review about this preceptorship has taken from EBSCO database, Google search Pro Ques and Pub Med from 2006 to 2015 using the keywords of preceptorship and nursing critical thinking. This systematic review utilizes the mixed method as literature review which is conducted qualitatively and quantitatively associated with the research purpose. The references review was retrieved from every preceptorship article assessed. According to those four articles, one article explains about its techniques and implementations in nursing education for the students of nursing department (Shin K, Jung. 2006), another one discusses about the evaluation of critical thinking strategy in solving the problem to increase the patient care (Simpson E, Coertney M, 2008), other two journals discover the implementation of preceptor in improving the clinical credibility, teaching method, and practical evaluation (Arthur, 2015 & McSharry, 2010).

RESULT

Preceptorship application in increasing the nurse's clinical thinking

Preceptorship involves preceptor as a guidance which leads the nurse as a preceptee. The research conducted by McSharry et al explains that preceptor has a big role in building up the clinical credibility, to be a resource for clinical staffs, in teaching and evaluating preceptee, and in maintaining the reciprocal relation in practices and duplications (McSharry, McGloin, Frizzell, & Winters-O'Donnell, 2010). Clinical credibility is a guarantee that preceptor is qualified to guide and conduct the holistic nurses which meet several difficulties in assessing the patient's psycho-social problems. Preceptor has the ability to evaluate preceptee's practices: Has the competences of holistic nurses already been achieved or not evaluated well. A study which is not followed by evaluation cannot impact significantly, because it has no particular grade to revise a clear description. Preceptor is the role model that can be followed by preceptee with the higher understandable and comprehensive replication as the reflection of their mentor's real conducts.

Arthurs's dissertation has a purpose to explore how preceptors evaluate the nurse's clinical thinking skills and behavior which are evolved to be appeared. Arthurs mentioned that Preceptor Assessment of critical thinking scale is an instrument used by preceptors to evaluate the clinical thinking skill of nurses in order to meet the appropriate learning evaluation (Arthurs, 2015). The clinical thinking assessment scale includes five sub-scales which consist of seven items of anticipation sub-scale, five items of sub-scale priorities, eight-teen items implementation sub-scales, three items of adaptation sub-scales, and five items of reflection subscales. The competences that should be evaluated are the ability to give any reasonable questions and answers, reflective practices, thinking beyond background study, implemented thinking from whole experiences, anticipating every possibility, the fast responses toward changes, independency, communication skills, right time intervention, patient attention based on right nursing care, and the trust among new situation. By the time being, it has been

found learning methods that could be implemented to create a nurse's clinical thinking skills but constrained by data validation. The scale that describes by Arthurs can be the key of right preceptorship application in holistic nursing.

The ability of nurses in providing the psycho-social needs of patient by improving the clinical thinking.

Shin in his research looked for the development of clinical critical thinking skill test (CCTS) and validated its potentials (Shin, 2015). Shin showed that between thirty CCTS items lied eleven items of assessments which had been exclusively maintained to evaluate the nurses' thinking skills based on the different standard of difficulties and parameters. The development resulted nineteen evaluation items and when validated again, the analyses scale of difficulties were getting decreased and followed by appropriate parameters. This development agreed by the committee of CCTS as well as experts.

Simpson explained that nurses need a particular strategy to improve the critical thinking skills. This is in accordance by the demands of nurses as health services providers which need comprehensive and complex tasks. Therefore, it needs creativity. The analyses and innovations of the nurses will encourage the problem solving to increase the nursing care (Simpson E, Coertney M, 2008).

DISCUSSION

The one criteria of a preceptor described by McSharry et al is the credibility. Preceptor is selected comprehensively by assessing their cognitive and affective performances as well as their huge experiences. The preceptor experiences could integrate the theory occurred to be implemented practically (Hyrkäs & Shoemaker, 2007). This could be a supplement for holistic nurses in fulfilling their nursing cares.

The role model which is remained by preceptors to their preceptee is a real application by holistic nurse to consider every aspect related to patient needs as a human-being. Moreover, it has to be conduct considering the physical condition followed by hopeless and insecure feelings towards their cancers. By those conditions, the death rate will be increased. The social actualization will also influence the patients as well as the relation with their couples, children, family, friends, and environments. The feelings experienced by patients are hard to define. It needs the special approach. The strategy could be studied directly by monitoring the preceptor's behavior as well as their plans, implementations, and evaluations. A new nurse in that holistic nursing must need figures that could mix their tasks in planning the preceptee needs (Lindsey & Jenkins, 2013). Therefore, everything that has been studied is suitable with their needs. That research showed that the most effective learning method is not from theories or discussions, but it yields from direct practices and demonstrations from the following roles (Bylund et al., 2009).

The study for holistic nurses in creating and improving the critical thinking skills is not only seen by its learning method, but also by assessing its effectiveness. The effectiveness of critical thinking learning should be evaluated by the right steps and targets, and have the appropriate standards, criteria, and indicator. The recent evaluation method should be validated because some

showed that the old perspectives remained the un-effective and efficient programs. The validation process should be done sustainably following the competences that should be owned by holistic nurses in accordance to fulfill the psycho-social needs of cancer patient. Holistic nurse should suggest any reasonable questions or answers as well as the nursing based evidence. The nursing practices conducted should be the real and reflective action regarded to the patients' needs. The holistic nurses are demanded to have a huge knowledge to encourage their background education in nursing. Moreover, the patients' habits will be the most factors to choose the appropriate manner for intervention (Heydari, Yaghoubinia, & Roudsari, 2013). The nurses will find any criteria of cancers' patients that usually show their family background, education, illnesses historical reviews, self-problems, as well as social-problems. Therefore, the holistic nurses should be capable to implement their experiences, use some available resources to drive the decision, anticipate the possibilities, right time adaptation, independent and communication skill, right time intervention, right nursing care, and the trust of new situations.

The development of clinical critical thinking skills test (CCTS) noted by Shin is the right action that can be done and support the Arthur's outcome where the evaluation process is the key to meet the goal. The tools used must be reviewed to keep it update and suitable with the particular target. The quantity item from CCTS cannot be standard, but the quality is implemented to meet the valid and reliable result. While the applied standard has the different criteria, the evaluation results will not describe the condition of clinical critical thinking skills of holistic nurses. This can be hindrance in increasing the nurses' competences to assessing the materials clearly, drafting the problems, composing the plans, implementing and evaluating the problems. The validation has been done not only by editing but also implementing the drafter of CCTS and the related experts. Their interest is applied in order to create the right content of drafting CCTS and minimize the same references to be summarized. Therefore, the correction and development can be more effective because the process is not conducted since the beginning but by assessing the recent analyzes (Ricchetti & Jun, 2011).

The evaluation of critical thinking strategy will encourage the ability of holistic nurses to solve the problems experienced by the patients. Services without specific strategy only impress the routines actions (McCormack & Slater, 2006). While the nurses only do their routines which just focus on physical aspects, the truly meaning of "healthy" cannot be achieved. The health must be balance with the well-being conditions including physical, social, cultural, and spiritual condition. The quality of holistic nursing services will be significantly influenced by the developed strategy (Simpson & Courtney, 2002).

CONCLUSION

The preceptor learning method influences the increasing level of holistic nurse ability in providing the psycho-social needs of the patients suffering cancers. Preceptorship stimulates the nurse to improve their critical thinking in fulfilling the nursing care tasks. It consists of assessments, diagnosis, plans, implementations, and evaluations. The critical thinking skills can be evaluated by Preceptor Assessment of Critical Thinking Scale and Clinical Critical Thinking

Skills Test. The critical thinking strategic evaluation of holistic nurses in solving the problems will increase the nursing care of patients suffering cancers. Preceptorship needs to be realized by holistic nursing services in order to meet the comprehensive nursing care.

REFERENCES

- Arthurs, K. (2015). *Nurse Preceptor Assessment of Critical Thinking: An E-Delphi Study*.
- Bylund, C. L., Brown, R. F., Lubrano di Ciccone, B., Diamond, C., Eddington, J., & Kissane, D. W. (2009). Assessing facilitator competence in a comprehensive communication skills training programme. *Medical Education*, 43(4), 342–9. <http://doi.org/10.1111/j.1365-2923.2009.03302.x>
- Heydari, A., Yaghoubinia, F., & Roudsari, R. L. (2013). Supportive relationship: Experiences of Iranian students and teachers concerning student-teacher relationship in clinical nursing education, 18(6).
- Hyrkäs, K., & Shoemaker, M. (2007). Changes in the preceptor role: re-visiting preceptors' perceptions of benefits, rewards, support and commitment to the role. *Journal of Advanced Nursing*, 60(5), 513–24. <http://doi.org/10.1111/j.1365-2648.2007.04441.x>
- Lindsey, P. L., & Jenkins, S. (2013). Nursing students' clinical judgment regarding rapid response: the influence of a clinical simulation education intervention. *Nursing Forum*, 48(1), 61–70. <http://doi.org/10.1111/nuf.12002>
- Martinez, G. P. (2005). Breast Cancer as a Life Process: Psychosocial Experiences of Latina and White (non-Latina) Long-Term Breast Cancer Survivors.
- McCormack, B., & Slater, P. (2006). An evaluation of the role of the clinical education facilitator. *Journal of Clinical Nursing*, 15(2), 135–44. <http://doi.org/10.1111/j.1365-2702.2006.01275.x>
- Peters, M. E. W. J., Goedendorp, M. M., Verhagen, S. a H. H. V. M., Van Der Graaf, W. T. a, & Bleijenbergh, G. (2014). Exploring the contribution of psychosocial factors to fatigue in patients with advanced incurable cancer. *Psycho-Oncology*, 23(January), 773–779. <http://doi.org/10.1002/pon.3481>
- Ricchetti, C., & Jun, A. (2011). Strategies and resources for successful preceptor development. *American Journal of Health-System Pharmacy: AJHP: Official Journal of the American Society of Health-System Pharmacists*, 68(19), 1837–42. <http://doi.org/10.2146/ajhp100654>
- Simpson, E., & Courtney, M. (2002). Critical thinking in nursing education: Literature review. *International Journal of Nursing Practice*, 8(07), 89–98. <http://doi.org/10.1046/j.1440-172x.2002.00340.x>
- Sulisno, M., Program, M., Ilmu, S., Kedokteran, F., Pengajar, S., Dasar, D., ... Keperawatan, I. (2012). Pengetahuan Perawat Tentang Konsep Keperawatan Holistik. *Jurnal Nursing Studies*, 1, 157–162.
- Shin, Sujin, et all. (2015). Validation of a clinical critical thinking skills test in nursing. *J Educ Eval Health Prof.* ; 12: 1.

SPOUSE'S ELECTRIC ACCUPRESSURE METACARPAL PRACTICE METHOD FOR REDUCING PAIN OF MOTHER'S IN FIRST STAGE LABOUR

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ABSTRACT

Backgrounds: Labour pain cause psychological disorders for mothers, such as 87% of postpartum blues, 10% of depressions and 3% of psychosis. Therefore an intervention to reduce labour pain is necessary to prevent complications in the mother and fetus during the process and after delivery. One method to reduce labour pain is to give accupressure on the metacarpal, but the application of this method is usually only be done by health workers. In fact, accupressure method can also be taught in family members, especially the spouse (husband), to reduce labour pain. Mother in labour process need support from the environment of health care workers and family, especially from their spouse.

Aims: To describe the accupressure practice of spouses to relieve labour pain.

Method: Used descriptive analytic design. There were 40 samples of husbands who waited the labour process of their wife. The husbands have been trained for 30 minutes before the labour to do the metacarpal accupressure and practiced it to help their wife during the labour process.

Result: There were 75% of husbands did well practicing accupressure metacarpal method and 60% of mothers claimed reducing of pain after given the accupressure by their husband. As a recommendation of this study is the importance of spouse's presence in first stage of labour for reducing pain.

Keywords: accupressure, labour pain, husband's accupressure practice

BACKGROUND

Most deliveries (90%) is always accompanied by pain while in labor pain is a common thing to happen, the pain of labor is a physiological and psychological processes (WHO, 2007; Ministry of Health 2007). Reported from 2,700 women giving birth only 15% of births take place with mild pain, 35% with moderate pain, 30% with severe pain and 20% of deliveries with very severe pain (Niven & Gijbers, 1984). Health statistics of Central Java (2003) obtained deliveries by skilled health personnel is not maximum 82.75%, and in particular the county Kendal obtained 64.71% figure means that about 35% of deliveries are handled by other than medical personnel. Moreover likely deliveries take a patient's own home.

Labor pain can stimulate the release of chemical mediators such as prostaglandins, leukotrienes, thromboxane, histamine, bradykinin, substance P,

and serotonin, will result in the secretion of stress hormones such as catecholamines cause and steroids with consequent vasoconstriction of the blood vessels to weaken intestinal contractions. Excessive secretion of these hormones will cause interference uteroplacental circulation resulting in fetal hypoxia. From the research, pain in childbirth causes women experience psychological disorders, 87% post partum blues that occur from 2 weeks to 1 year postpartum, 10% and 3% depression with psychosis (Perry & Potter, 2006).

Labor pain is not unbearable encourage maternal looking for some alternatives to treat pain, including the use of pain medications such as analgesics and sedatives (Anita, Ocviyanti, & Handaya Wisnuwardhani, 2002). While these drugs can give adverse side effects include fetal hypoxia, the risk of neonatal respiratory depression, decreased heart rate and increased maternal body temperature and may cause changes in the fetus (Mender & Rosemary, 2003). Therefore interventions reduce labor pain is very necessary in order to reduce complications in the mother and fetus during the process and after delivery.

Many kind of methods performed by health workers to reduce pain in childbirth. Non pharmacology intervention reduces pain, among others, hypnosis, acupressure, yoga, hydrotherapy, acupunctur, accuressure breathing and relaxation techniques. Accuressure metacarpal proven to reduce labor pain but not much done. This method is relatively easy to do by the health worker and his family, especially her husband to help her reduce the level of labor pain.

The importance of the role of the family, especially the husband in a decrease in the level of pain in labor should be recognized as an appropriate strategy, because her husband and can act as a psychological support to the wife in labor, so as to reduce morbidity and maternal mortality rates are not directly impact on reducing vulnerability and addressing he impact of the disease. Labor pain is a pain that is felt by the mother in labor. From the research, pain in childbirth causes women experience psychological disorders, 87% of postpartum blues postpartum blues that occur from 2 weeks to 1 year postpartum, 10% and 3% depression with psychosis. Therefore, it is necessary to find a solution to the labor pain is cheap and practically can be used by mothers to reduce pain in first stage labor.

Contributions that can be contributed from the research include: a) provide information about one of the alternatives to reduce labor pain in a non pharmacologic. b) Informs the husband's role in the practice of counter pressure method to reduce pain levels in the mother during the birth process first stage c) Provide information support the importance of family, especially the husband (spouse) in nursing care in labor.

The concept of pain in labor

The delivery process begins with uterine contractions that cause pain and discomfort in women who give birth (Bobak, IM, 2005). Physiological factors Pain: Paths pain starts from the nerve endings (receptors) on the site of tissue damage then formed trajectory spinal afferents to the spinal ganglion in the posterior spinal cord Radik, then delivered to the pathways/ tracts ascending to the pain center of the central nervous system. Psychological factors of pain: Past

experiences, value systems associated with pain, family expectations, environment, emotions, and culture.

Signal Reception and transmission of pain

Excitatory nerve pain in the air-channeled myelin is faster than non-painful stimuli to the nerve myelin. The nerve fibers are divided into several groups: 1) Air-myelin nerve fibers A receptors are mechanosensitive nerve conduction quickly, respond to mechanical stimuli, such as by the pressure and touch. 2) Air-myelin nerve fibers A mechanothermal nerve receptors that respond to the rapid conduction of mechanical stimuli, such as pressure, touch and heat. 3) C nerve fibers are not air-polymodal nociceptor myelin, nerve conduction is slow to respond to some stimulus (Sunaryo, 2008; Freudenicra, , 2009). Distribution of pain signals from the spinal cord to the distributed network through Radik posterior spinal nerves which then have sinapse in the dorsal horn of the spinal cord and continues to form a complex connection. This is what often makes it difficult to determine which pain is felt, especially in visceral pain. Then the pain signal is delivered to the pain centers in the central nervous system via pathways spinothalamicus. Spinothalamic pathway before reaching the center of the pain is in the brain stem and then have sinapse with thalamus. After the thalamus, then the sensation of pain distributed to several somatosensory cortex of the brain. When the pain signal reaches the brain, the signal does not stop proceeding in which multiple signals to the motor cortex and then down through the spinal cord to the motor nerves. This impulse causes muscle contractions experienced a painful stimulus (Tortora & Grabowski, 2003).

Pain inhibitory processes (descending tracts)

Descending inhibition of pain begins at the somatosensory cortex to the thalamus and hypothalamus channeled. Derived from the thalamus to the mesensefalon then form a synapse with ascending pain pathways in the medulla oblongata and medulla spinallis, and inhibit nerve signals ascending. This led to the formation of the body's natural painkillers caused by stimulation neuritransmitter opioids (such as endorphins, dynorphin and enkephalin) (Freudenricra, 2008).

Pain signals can be attributed by the autonomic nervous system and the current through the medulla oblongata can cause increased heart rate, increased blood pressure, increased respiratory rate and sweat production. This reaction depends on the intensity of the pain and can lead to depression centers in the cortex.

Transduction process produces a magnification of pain impulses, and in-transmission by pain pathways to the spinal cord dorsal horn. In the cornu of the spinal cord impulse modulation of pain experience, which can be enlarged or reduced. It assists modulation of nerve fibers running nosiseptik impulses from the periphery toward the center, and finally accepted the brain as a sensation / perception of pain (Freudenricra, 2008; Tortora & Grabowski, 2003; Molyata, 2010).

Gate Theory controll

Ronald Melzack and Patrick Wall explains that the mind and emotions can influence the perception of pain, and through the mechanism of the Gate Controll kornus posterior spinal cord. Small nerve fibers and large fibers in the cell bersinap projector (P) which is going through spinothalamic tract leading to the pain centers of the brain, and also sinaps interneurons inhibitors.

These relationships determine when a painful stimulus is channeled to the brain by several mechanisms as follows (Freudenricra, C, 2008): 1) When there is no input of pain, the nerve fibers nerve fibers inhibitors prevent the projector to deliver signals to the brain (gate closes). 2) The existence of normal somatic sensation when there is stimulation of the larger fibers or just stimulation of large nerve fibers and nerve, the nerve inhibitors projector will be stimulated, but the neural inhibitor prevents nerve signals to the brain projector channel (gate closes). 3) Acceptance of nociceptive pain occurs when the smaller fibers stimulated. This causes the inactivation of the nerves and nerve inhibitors projectors deliver pain signals to the brain (gate open).

Labor pain

Most women will experience pain during labor. The pain of labor is individualized. Each individual will perceive pain differently to the same stimulus depending on its pain threshold. Pain in childbirth is fundamentally different from the pain that is experienced by individuals in general. The difference lies in: a) the labor pain is a physiological process, b) Women can know that he will experience pain during childbirth so that it can be anticipated, c) adequate knowledge of the birth process will help women to cope with labor pain that is intermittent (periodically), d) the concentration of women in the baby to be born will make it more tolerant to the pain felt during labor (Bobak, 2005).

Factors that affect pain

Factors that affect pain include age, gender, culture, understanding pain, concern, anxiety, fatigue, past experiences, coping patterns, family and social support (Hutajulu, 2003; McCaffery & Beebe , 2003).

Accupressure

Accupressure is one of the techniques that can be used to reduce labor pain. Accupressure metacarpal consists of a fixed given a strong impetus to the point in the metacarpal during contractions. Accupressure is given in the areas of pain or discomfort when the contractions started. Accupressure is usually performed at metacarpal. Gate Control Theory can give reasons why this action is successful. Gate control theory of Melzack and Wall, 1965 said that the pain impulses can be regulated or even inhibited by the defense mechanism along the central nervous system (Melzack, 2008; Melzack et al, 2008). Defense mechanisms can be found in the cells of the substantia gelatinosa in the dorsal horn of the spinal cord, the thalamus, and the limbic system. This theory says that the pain impulse is delivered when an impulse inhibited defense opened and closed when a defense. Efforts to close the defense is a basic pain relief therapy Melzack, 2008; Melzack et al, 2008).

Spouse's support in Childbirth

Caplan in Friedman explains that the family has some support functions namely; a). Informational support: The support is the provision of materials that can provide direct assistance such as the provision of money, the provision of goods, food and services. This form can reduce stress because individuals can solve problems that relate directly to the material. b) Support the assessment. The form this support involves the award of the information, suggestions or feedback on the individual circumstances. This type of information can help individuals to identify and solve problems easily. c) Support the instrumental. The support is a source of practical and concrete help, such as: the health of people in terms of the need to overcome the pain, eating and drinking, resting, avoiding sufferers of fatigue. d) Emotional support. The form this support has made people comfortable feeling, sure, cared and loved by the family so that individuals can face problems with either. This support is very important in the face of a state that is considered cannot be controlled.

OBJECTIVES

This study aims to describe how her husband practices after getting raining methods accuressure metacarpal to reduce pain in first stage labor.

METHODS

The method used is descriptive which gives an overview of the practice of husbands reduce maternal pain in the first stage of labor by using a Accupressure. The population in this study was all women giving birth by normal delivery at the first stage and as a whole, maternal sample is the normal delivery at the first stage of which is in the Kendal Hospital, with a sample that meets the criteria watchman husband and wife, the first wife.

Data collection was started by selecting respondents based on the criteria, then trained Counter-pressure method. The instrument in this study is a set of tools in the form of instruments action steps that are used to guide him into doing Accupressure, and set of tools for measuring instruments that have been validated pain respondent. Applied research ethics approval or informed consent ie, anonimity with no name, give the patient the freedom to provide flexibility patient rights.

RESULTS

Table 4.1. Characteristics of respondents by age in the practice of Accupressure by the husband in Soewondo hospital, Kendal, 2015, n=40

| Age | X | Mode | Sd | Min | Maks |
|----------|----|------|-----|-----|------|
| Husband | 32 | 34 | 7,0 | 18 | 48 |
| Wife Age | 28 | 30 | 6,3 | 17 | 40 |

Table 4.2. Characteristics of respondents by education in the practice of Accupressure by the husband in Soewondo hospital, Kendal, 2015, n=40

| Level of Education | Frequency F | | Percentage % | |
|--------------------|----------------|------|-----------------|------|
| | Husband | Wife | Husband | Wife |
| Basic School | 14 | 10 | 35,0 | 25,0 |
| Junior School | 9 | 16 | 22,5 | 40,0 |
| High School | 11 | 12 | 27,5 | 30,0 |
| College | 6 | 2 | 15,5 | 5,0 |
| Total | 40 | 40 | 100 | 100 |

Table 4.3. Characteristics of respondents based on the work of the practice of Accu pressure by the husband in Soewondo hospital, Kendal, 2015, n=40

| Jobs | Frequency F | | Percentage % | |
|------------------------------------|----------------|----|-----------------|------|
| | | | | |
| Farmer | 2 | 0 | 5,0 | 0 |
| Merchants | 2 | 2 | 5,0 | 5,0 |
| Private (workers, factory workers) | 2 | 2 | 5,0 | 5,0 |
| Theacher | 34 | 21 | 85,0 | 52,5 |
| Did not jobs | 0 | 15 | 0,0 | 37,5 |
| Total | 40 | 40 | 1 00 | 100 |

Table 4.3. Characteristics of respondents (wife) based on the experience of childbirth in the practice of Accupressure by the husband in Soewondo hospital Kendal, 2015 ,n=40

| Frequency childbirth experience | Frequency F | Percentage % |
|-----------------------------------|----------------|-----------------|
| First delivery | 14 | 35,0 |
| The second delivery | 22 | 55,0 |
| Childbirth is more than twice the | 4 | 10,0 |
| Total | 40 | 100 |

Table 4.5. Characteristic behavior while training on counter pressure on the respondent (husband) in Soewondo hospitals, Kendal, 2015, n=40

| N0 | Spous Behavior while training | Do | | Not done | |
|----|--|-----|-------|----------|------|
| | | (n) | (f) | (n) | (f) |
| 1 | Husband listens to the goals Accupressure Method | 26 | 60,0 | 14 | 40,0 |
| 2 | Husband listens to the way action reduces labor pain with AcccPressure Suami | 36 | 90,0 | 4 | 10,0 |
| 3 | Active husband asked as an explanation | 20 | 50,0 | 20 | 50,0 |
| 4 | Husband can take action to correct the Accuressure least 3 X while training | 32 | 80,0 | 8 | 20,0 |
| 5 | Husband willing to act Accu pressure when the wife felt pain in the first stage of labor | 40 | 100,0 | 0 | 0 |

Table 4.6: Table mean value of the husband's behavior in the training of Accupressure in Soewondo hospitals, Kendal, 2014, n=40

| Value Frequency practice category | Frequency F | Percentage % |
|--------------------------------------|----------------|-----------------|
| Both (Score 200-400) | 31 | 77,0 |
| Less well (Score <200) | 9 | 23,0 |
| Total | 40 | 100 |

Table 4.7. Characteristics of pain to reduction measures by respondent (spouse) to Accu pressure practice in Soewondo hospitals Kendal, 2014, n=40

| No | Accupressure action | Do | | Not done | |
|----|--|-----|------|----------|------|
| | | (n) | (f) | (n) | (f) |
| 1 | Husband tells wife Accupressure measures to reduce labor pain | 38 | 95,0 | 2 | 5,0 |
| 2 | Husband gives wife a position as comfortable as possible on the felt labor pain | 20 | 50,0 | 20 | 50,0 |
| 3 | The husband gave t commfort position before the action ofAccu pressure | 28 | 70,0 | 12 | 30,0 |
| 4 | Fourth husband looking for the right spot to apply pressure with Accupressure to reduce the pain of his wife | 32 | 80,0 | 8 | 20,0 |
| 5 | Husband doing a strong push at the point in the metacarpal during contraction using the heel of the hand | 36 | 90,0 | 4 | 10,0 |
| 6 | Husband doing a strong push at the point in the metaacarpal the contraction of the thumb | 24 | 60,0 | 16 | 40,0 |
| 7 | The husband asked his wife whether the pain is reduced when performed Accupressure | 36 | 90,0 | 4 | 10,0 |
| 8 | Husband always do a Accupressure when the wife felt pain during childbirth | 28 | 70,0 | 12 | 30,0 |

Table 4.8: Table of mean values husband practices in conducting Accupressure to counter pressure practice in Soewondo hospitals Kendal, 2014, n=40

| Value of practice | Frequency F | Percentage % |
|------------------------|----------------|-----------------|
| Both (Score 320-640) | 30 | 75,0 |
| Less well (Score <320) | 10 | 25,0 |
| Total | 40 | 100 |

Table 4.9: Table frequency of pain after doing Accupressure by husband in Soewondo hospitals Kendal, 2014, n=40

| Level of Pain | Frequency F | Percentage % |
|---------------|----------------|-----------------|
| Reduced | 24 | 60 |
| Not reduced | 11 | 27,5 |
| Increased | 5 | 12,5 |
| Total | 40 | 100 |

DISCUSSION

According Bobak (2005) factors that affect reproductive health support to her husband, that knowledge about pregnancy and childbirth, experience, marital status, and socioeconomic status. From the research data obtained 35% of

elementary school-educated husbands and 85% of workers are adah husband's job as a factory worker, shop workers and other workers. This suggests that the husband's education level and family income is low relatively low.

Husband's support is very important in the delivery process. Because at the time of delivery occurs physiologically severe pain interfere with the mother. From the results, the husband's behavior when trained counter-pressure is 77% of this kind of behavior shows their husband's attention when obtaining information relating to the wife in the delivery process is very large. The behavior of a good husband provides convenience in receiving information in the training of counter-pressure. This is consistent with the findings that 80% of men can perform actions Accupressure 3 times correctly. The results of this study reinforced by research conducted Arif (2002) that there is a relationship role of the husband of the behavior of pregnant women in service delivery (Arif, 2002).

In general, from the results, the practice of the husband to perform accupressure is good (75%) it shows no concern in giving support to the wife in labor. In the face of labor required consultation and support from family, especially her husband (Susilowati, 2000). Age is one indicator that can reflect the maturity of someone in the act, including in decision-making. The average age of the husband is 32 years old, it shows the average husband belonged to a young adult. Young adults can show positive behavior in preparing for the future, including in preparing a generation descendant of the family, especially the reproductive developmental tasks. Minimum age is 18 years old husband (7.5%) of this age is still part of adolescence to early adulthood is possible still less mature in the decision included in the act of doing spousal support (included in the delivery process). From the research data obtained there is still 23% less good husband in training Accupressure and 25% less well in practice Accupressure. This is possible because the husband is still there under the age of 20 years.

Age also affects a person responds to pain. Judging from the average age of the respondent (wife) is 28 years showed a majority in the age group 20-30 years, in addition to the average of the respondents were in the productive age, as well as physiologically possible still withstand labor pain. However, in addition to individual pain response, pain is influenced by many things such as the environment, race, certain actions and also the pattern of one's coping in the face of pain.

The result showed that 22% of mothers who received accupressure measures were primigravida and has had second thoughts, it means the mother has had previous experience of overcoming pain. The results of the study mothers pain after Counter-pressure is reduced pain by her husband as much as 60% of mothers and only a small proportion is 12.5% said the pain increased after the accupressure by the husband, and 27.5% of mothers say no no change in pain even after counter-pressure by her husband. According Hutajulu (2003) individual labor pain and many other factors are very influential.

CONCLUSIONS AND RECOMMENDATIONS

Accupressure metacarpal action performed by the spouse's can reduce pain of mother in first stage childbirth. From these results it is suggested that

health workers involving husbands birth attendants in the delivery process especially in reducing labor pain.

REFERENCES

- Anita A, Ocviyanti D, Wisnuwardhani SD, Handaya. 2002. *Gambaran Intensitas nyeri pada persalinan menggunakan metode VAS dan VRS (An overview of the pain intensity during labour by using VAS and VRS model)*. MOGI. 2002; 26(4): 189-250.
- Arif, Syamsul. 2002. *Kesehatan reproduksi wanita, siapa peduli? (women helath reproduction, who is care?)*. Majalah Suara Hidayatullah
- Bennet, V. Ruth and Linda K. Brown (ed.). 2001. *Myles textbook for midwives*. Churchill Livingstone.
- Bobak, I.M., et al. *Maternity Nursing*. 2005. (Wijayanti, MA & Anugrah, PI penerjemah). California: Mosby. (Sumber asli diterbitkan 1995).
- Departemen Kesehatan Republik Indonesia. 2007. *Survey Demografi Kesehatan Indonesia 2007 (Hhealth demographic survey in Indonesia 2007)*.
- Gorrie, McKinney & Murray. 1998. *Foundation of Maternal Newborn Nursing*. 2nd Ed. United States of America: W.B. Saudners Company.
- Hutajulu. P. 2003. *Pemberian Valetamat Bromida dibandingkan Hyoscine N Butil Bromida untuk mengurangi nyeri persalinan (Using Valetamat Bromida compared with Hyosine N Butil Bromida for reducing pain during labour)*. Bagian Obstetri Ginekologi USU.
- May, K.A., & Mahlmaister, L.R. 1990. *Comprehensiv Maternity Nursing: Nursing Process & The Chidbearing Family*. 2nd Ed. Philadelphia: J.B. Lippincott Company.
- McCaffery, M., & Beebe. 2003. *A Pain: Clinical Manual for Nursing Practice*. Baltimore: V.V. Mosby Company.
- Melzack R, Taenzer P, Feldman P, Kinch RA. *Labour is still painful after prepared childbirth training*. 1998. Can Med Assoc J 1981;125:357-63
- Mender, Rosemary. 2003. *Nyeri Persalinan (labour pain)*. Jakarta: EGC.
- Molyata. 2010. *Paket Penyuluhan dan Senam Hamil Mengurangi Stres dan Nyeri serta Mempercepat Penyembuhan Persalinan, (Health education and pregnant gym package for reducing stress and pain and enhance recovery after labour*. Retrieved from <http://www.uns.ac.id/cp/penelitian.php?act=det&idA=271>, 2010.
- Niven C, Gijsbers K. 1984. *A study of labor pain using the McGill pain questionnaire*. Soc Sci Med 1984;19:1347-51.
- Potter. P, Ann Griffin Pery. 2006. *Fundamental of Nursing; Concep Process And Prectice*, 4th ed Missouri: Mosby Year Book Inc. St Louis.
- Ridolf, Ray, Franzen, & Ifana Eka R Susane. 2001. *Shiatsu Untuk Wanita (shiatsu for women)*. Jakarta: Arcan.

MALE'S INVOLVEMENT TOWARDS GENETIC COUNSELING: A SURVEY IN INDONESIA AND SINGAPORE

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ABSTRACT

Background: Genetic counseling process involves patients as individual or family. Males or male partners role as one of family support sources are very important. However, less participation of males or male's partner in genetic counseling is a most important reason barrier for patients to access these services.

Objective: The study aimed to assess the level of involvement of males towards genetic counseling.

Methods: This was a survey study with cross-sectional design of male attending genetic counseling. A convenience sampling method was used in this study. A questionnaire with emphasis on identifying knowledge and awareness, roles to male's contribution in decision making, and perception towards genetic counseling was used in this study.

Result: A total of 108 participants completed the questionnaire. The majority of participants was found to have a high level of involvement (81.9% for Singapore; 60% for Indonesia). The results of the study revealed that males were very well involved in the genetic counseling.

Conclusion: The study findings have clearly provided support for the understanding for involving males in genetic counseling. Certain programs that initiated by government or stakeholder is needed in order to maintain males' participation.

Keyword: male's involvement, genetic counseling

BACKGROUND

Genetic counseling is the process of helping people understand and adapt to the medical, psychological, and familial implication of genetic contributions to disease (Resta et al., 2006). It has emerged to respond to the individual seeking genetic information and has taken up the challenge of how the knowledge of the genetic contribution of a disease is shared with individual and families. Now, genetic counseling practice has become one of the health services that the existence should be considered. It has a very broad scope in the availability of several new genetic tests. It is simply a communication process, which involves diagnosis, explanation, and options (Adeyemo, Omidiji, & Shabi, 2007).

Researchers in genetics have already performed the studies regarding genetic counseling (Bhagal & Brunger, 2010; DeMarco, Peshkin, Mars, & Tercyak, 2004; Lewis, 2002; Schlich-Bakker, ten Kroode, & Ausems, 2006; Vadaparampil, Miree, Wilson, & Jacobsen, 2007; Weil, 2001). Most of them conducted the research studies in multicultural and psychological influences of genetic counseling. Many research focus on women. However, very little research has been conducted on males' involvement in genetic counseling. An exploratory study stated that several factors potentially contribute to the level of paternal involvement in prenatal genetic counseling session (Lafans, Veach, & LeRoy, 2003). These included relationship with partner, relationship with counselor, cultural, gender of counselor, paternal attributes, discomfort in setting, pregnancy factors, and other factors such as the lack of understanding about purpose of genetic counseling, feeling about counseling in general, and physician's recommendation to attend genetic counseling session.

A group of Canadian researchers set out to examine the role of partners in genetic counseling of women of advanced maternal age by comparing women who attended with their partner and those who attended alone. They concluded that subgroup of women who experienced greater in decision and anxiety surrounding prenatal diagnosis may have a greater need for support from their partners in reaching decision. Partner attendance may thus reflect a coping strategy employed by these women to facilitate the decision making process (Humphreys, Cappellini, & Hunter, 2003).

In the other study about the prevalence of fathers' attendance at pretest cancer genetic counseling sessions with mothers undergoing BRCA1/2 genetic testing revealed that only 27.3% of fathers attended pretest cancer genetic counseling together. It can be stated that one in three fathers attend pretest cancer genetic counseling with mothers (DeMarco et al., 2010).

Genetic counseling process involves patients as individual or family. This process needs family as a support system for individual who have risk or risk occurrence for genetic diseases. Otherwise, males or male partners as one of family support source are very important. There is no data about factors related males involvement towards genetic counseling. The study aimed to assess the level of knowledge of males and their attitude towards genetic counseling.

METHODS

This study was conducted at CEBIOR, Diponegoro University, Indonesia and KK Women's and Children's Hospital, Singapore. A comparative cross-sectional survey of males in genetic counseling unit was performed. The instrument used to measure the level of involvement was a self-assessment questionnaire that emphasis on identifying socio-demographic characteristics, knowledge, socio-cultural factors, and level of involvement towards genetic counseling with a Likert scale.

RESULTS

The researcher did not apply the quota in this study; however time by time data collection was done until the sample size completed. A total of 103 participants completed the questionnaire. More than half of the participants in

Singapore and nearly half of participants in Indonesia were 31-40 years old (53% in Singapore and 45% in Indonesia). Nearly half of participants in Singapore had university level of education (42.2%), whereas half of participants in Indonesia had secondary school level of education (50%). Most of the participants in both countries worked in non-government organizations (91.7% in Singapore males and 95% in Indonesian males).

Table 1. Socio-demographic characteristics of participants in genetic counseling (n=103)

| Socio-demographic characteristics | | Singapore (n=83) | | Indonesia (n=20) | |
|-----------------------------------|--------------------------------|------------------|------|------------------|------|
| | | Frequency | % | Frequency | % |
| Age | 21 – 30 years | 7 | 8.4 | 5 | 25.0 |
| | 31 – 40 years | 44 | 53.0 | 9 | 45.0 |
| | 41 – 50 years | 25 | 30.1 | 6 | 30.0 |
| | >50 years | 7 | 8.4 | 0 | 0.0 |
| Education | Not completed primary school | 0 | 0.0 | 3 | 15.0 |
| | Primary school | 4 | 4.8 | 2 | 10.0 |
| | Not completed secondary school | 0 | 0.0 | 3 | 15.0 |
| | Secondary school | 17 | 20.5 | 10 | 50.0 |
| | ITE | 3 | 3.6 | 0 | 0.0 |
| | Polytechnic | 20 | 24.1 | 0 | 0.0 |
| | Junior college | 4 | 4.8 | 0 | 0.0 |
| | University | 35 | 42.2 | 2 | 10.0 |
| Religion | Islam | 13 | 15.7 | 18 | 90.0 |
| | Christianity | 14 | 16.9 | 2 | 10.0 |
| | Hinduism | 7 | 8.4 | 0 | 0.0 |
| | Buddhism | 27 | 32.5 | 0 | 0.0 |
| | Taoism | 5 | 6.0 | 0 | 0.0 |
| | Freethinker | 15 | 18.1 | 0 | 0.0 |
| | Others | 2 | 2.4 | 0 | 0.0 |
| Race | Chinese | 56 | 67.5 | | |
| | Malay | 10 | 12.0 | | |
| | Indian | 12 | 14.5 | | |
| | Eurasian | 0 | 0.00 | | |
| | Caucasian | 2 | 2.4 | | |
| | Other | 3 | 3.6 | | |
| | Chinese | | | 2 | 10.0 |
| | Javanese | | | 16 | 80.0 |
| | Sundanese | | | 2 | 10.0 |
| | Other | | | 0 | 0.0 |
| Main occupation | Government | 6 | 7.1 | 1 | 5.0 |
| | Non-government | 77 | 91.7 | 19 | 95.0 |
| | Retired | 0 | 0.0 | 0 | 0.0 |
| Socio-economic status | Low | 2 | 2.4 | 8 | 40.0 |
| | Moderate | 60 | 71.4 | 8 | 40.0 |
| | High | 21 | 25.0 | 4 | 20.0 |
| House | 0 – 10 kilometers | 11 | 13.3 | 4 | 20.0 |

| Socio-demographic characteristics | | Singapore (n=83) | | Indonesia (n=20) | |
|-----------------------------------|--------------------|------------------|------|------------------|------|
| | | Frequency | % | Frequency | % |
| distance | 11 – 20 kilometers | 33 | 39.8 | 4 | 20.0 |
| | 21 – 30 kilometers | 23 | 27.7 | 4 | 20.0 |
| | >30 kilometers | 16 | 19.3 | 8 | 40.0 |
| Distance | Far | 17 | 20.5 | 13 | 65.0 |
| considera | Near | 61 | 73.5 | 7 | 35.0 |
| tion | Don't know | 5 | 6.0 | 0 | 0.0 |

Males' involvement was measured by collecting information on males' intention to be involved, or their active involvement. Those are include (1) Attending appointment together with his wife or child, (2) Being ready to provide either financial or psychological support, (3) Actively seek information, (4) Being ready to discuss with his wife or child, and (5) Being read to make an advanced decision for further management.

Table2. The level of Participants' Level of Involvement in Genetic Counseling (n=103)

| Involvement Levels | Singapore (n=83) | | Indonesia (n=20) | | Interpretation |
|--------------------|------------------|------|------------------|------|----------------|
| | Frequency | % | Frequency | % | |
| 10 – 23 | 0 | 0.0 | 0 | 0.0 | Low |
| 24 – 36 | 15 | 18.1 | 8 | 40.0 | Moderate |
| 37 – 50 | 68 | 81.9 | 12 | 60.0 | High |

A simple category was created by adding the scores on the five responses of males' involvement. The level of involvement was classified into low (scores from 10-23), moderate (scores from 24-36), and high (sores from 37-50). Based on the participants' answer of statements assessing involvement, the level of males' involvement of both Singapore and Indonesia were majority within a high level (81.9% and 60%).

DISCUSSION

The most of participants met the inclusion criteria and were included based on their population. There were no significant differences between Singapore and Indonesian males in terms of socio-demographic characteristics, level of socio-cultural factors influence, level of knowledge, or level of involvement.

Assessment of the level of males' involvement in genetic counseling revealed that more than a half of participants have a high level of involvement (81.9% for Singapore males; 60% for Indonesian males), while the rest were found in the moderate level of involvement. This percentage was higher than other studies on men's involvement in Prevention of Mother-to-Child Transmission (PMTCT) that demonstrated 50.3% of male partners have a moderate level of involvement (Tshibumbu, 2006). Another result on male involvement in similar program revealed that only 26% of the 387 respondents had a high male involvement (Byamugisha, Tumwine, Semiyaga, & Tylleskar, 2010). One study about factors that influence male participation in family planning and reproductive health in Indonesia presented that there was 67.7% of

participant is high male participation (Dewi, 2009). From a study about male involvement in home based care activities for people living with HIV and AIDS in Western Kenya, results revealed a generally low level of male involvement. However, on specific elements of involvement, males were seen to be slightly more involved (Makori, Onyango, Kakai, & Osero, 2011).

The majority of participants, both in Singapore and in Indonesia, stated that they actively asked the information about genetic diseases in genetic counseling process. More than half of participants in Singapore and nearly half of participants in Indonesia had expressed their opinion when the genetic counseling took place. It was less unlikely that they had already known about genetic diseases before coming to the appointment. One of the possible explanations of this finding was understandable that they were not sure whether they had already known this topic comprehensively. To our knowledge, there had not been any previous studies about males seeking information on genetic diseases. One study on women survey of knowledge, attitudes, and experiences of Western Australian women in relation to prenatal screening and diagnostic procedures revealed that some women may rely on the information initially received during their previous pregnancy and do not actively search for additional information (Rostant, Steed, & O'Leary, 2003). This reason also could be applied to male partners, which they might have no enough time to seek detail information about that.

This study also demonstrated that more than half of males had discussed about genetic diseases with their family. They also had discussed what they might do if the positive test result happened to the family. To our knowledge, there were not any previous studies performed that had addressed the degree of communication between family on genetic diseases issues. From the analysis, it was found that more family had discussed about it than that never discussed. It was reasonable that they not only had better communication about genetic diseases and testing but also other health consequence in the family, which finally encouraged them for better application of family health care. However, the quality of communication had to explore more using a qualitative approach.

CONCLUSION

The results of the study revealed that males were very well involved in the genetic counseling. It have clearly provided support for the understanding for involving males in genetic counseling. Certain program that initiated by government or stakeholder is needed to think in order to maintain males' participation. For instance, creating group that consists of males who have family with genetic diseases. They can give support and share each other about what should they do and what should they do not. Moreover, despite the fact that it is difficult to involve multidisciplinary, it is of important role to raise and maintain males' involvement in genetic counseling.

Besides that, home visit in order to monitor patients' condition and also maintain males' involvement is needed. This activity will motivate family and shows that health workers have a high attention to family who have a member suffered from genetic diseases.

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REFERENCES

- Adeyemo, A. O., Omidiji, O., & Shabi, O. (2007). Level of awareness of genetic counseling on Lagos, Nigeria: Its advocacy on the inheritance of sickle cell disease. *African Journal of Biotechnology*, 6(24), 2758–2765.
- Bhogal, A., & Brunger, F. (2010). Prenatal genetic counseling in cross-cultural medicine. *Canadian Family Physician*, 56(10), 993–999.
- Byamugisha, R., Tumwine, J., Semiyaga, N., & Tylleskar, T. (2010). Determinants of male involvement in the prevention of mother-to-child transmission of HIV programme in Eastern Uganda: a cross-sectional survey. *Reproductive Health*, 7(1), 12. Retrieved from <http://www.reproductive-health-journal.com/content/7/1/12>
- DeMarco, T., Nusbaum, R., Peshkin, B., Patenaude, A., Schneider, K., & Garber, J. (2010). Prevalence and correlates of mothers and fathers attending pretest cancer genetic counseling together. *Patient Education and Counseling*, 78(1), 29–33.
- DeMarco, T., Peshkin, B., Mars, B., & Tercyak, K. (2004). Patient satisfaction with cancer genetic counseling: A psychometric analysis of the genetic counseling satisfaction scale. *Patient Education and Counseling*, 13(4), 293–304.
- Dewi, V. (2009). *Factors that influence male participation in family planning and reproductive health in Indonesia*. The Flinders University of South Australia.
- Humphreys, A., Cappellini, M. D., & Hunter, A. (2003). What is the significance of attendance by the partner at genetic counselling for advanced maternal age? *Psychology Health Medicine*, 8(3), 266–278.
- Lafans, R., Veach, P., & LeRoy, B. (2003). Genetic Counselors' Experiences with Paternal Involvement in Prenatal Genetic Counseling Sessions: An Exploratory Investigation. *Journal of Genetic Counseling*, 12(3), 219–242. doi:10.1023/A:1023232203033
- Lewis, L. (2002). Models of genetic counseling and their effects on multicultural genetic counseling. *Journal of Genetic Counseling*, 11(3), 193–212.
- Makori, R., Onyango, R., Kakai, R., & Osero, J. (2011). Community attitudes towards male involvement in home based care activities for people living with HIV and AIDS in Maseno Division, Western Kenya. *Journal of Public Health and Epidemiology*, 3(11), 503–512.
- Resta, R. G., Biesecker, B., Bennett, R. L., Blum, S., Estabrooks, H. S., & Strecker, M. (2006). A new definition of genetic counseling: National society of genetic counselors' task force report. *Journal of Genetic Counseling*, 15(2), 77–83.
- Rostant, K., Steed, L., & O'Leary, P. (2003). Survey of the knowledge, attitudes and experiences of Western Australian women in relation to prenatal

- screening and diagnostic procedures. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 43(2), 134–138. doi:10.1046/j.0004-8666.2003.00041.x
- Schlich-Bakker, K., ten Kroode, H., & Ausems, M. (2006). A literature review of the psychological impact of genetic testing on breast cancer patients. *Patient Education and Counseling*, 62(1), 13–20.
- Tshibumbu, D. (2006). *Factors influencing men's involvement in prevention of mother-to child transmission (PMTCT) of HIV programmes in mambwe in Mambwe District, Zambia*. University of South Africa.
- Vadaparampil, S., Miree, C., Wilson, C., & Jacobsen, P. (2007). Psychosocial and behavioral impact of genetic counseling and testing. *Breast Disease*, 27(1), 97–108.
- Weil, J. (2001). Multicultural education and genetic counseling. *Clinical Genetics*, 59(3), 143–149.

PREVENTIVE ACTION FOR HOUSE WIFE TO REDUCE HIV/AIDS

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ABSTRACT

Background: In 2014 the global situation regarding cases of HIV / AIDS is 36.9 million [34.3 million–41.4 million] people globally were living with HIV, 2 million [1.9 million–2.2 million] people became newly infected with HIV, 1.2 million [1 million–1.5 million] people died from AIDS-related illnesses. One of the HIV / AIDS transmission is through sexual contact, sexual contact occurred on deposit semen and body fluids intermingling. This can occur in sexual contact between men with men and women with men. Furthermore, to overcome the above problems, the WHO launched the "Global Health Sector Strategy on HIV / AIDS: four targets for 2015", the Strategic direction 1: Optimize HIV prevention, diagnosis, treatment and care outcomes. One consequence of the spread of HIV / AIDS through sexual contact is the emergence of HIV / AIDS cases by housewives as a patient. Furthermore, with the first strategy launched by WHO, the health care, and preventive behavior (Health Believe Model) is expected to be an alternative to HIV prevention measures in order to reduce the incidence of HIV / AIDS were focused on housewives.

Method: We conducted a systematic search in three international databases for literature published between 2003 and 2014 with prevention action to HIV/AIDS especially for women. The impact of interventions on increasing participants' knowledge about the prevention of HIV / AIDS.

Result: Health care and Health Believe Model conducted in participants proved to increase knowledge about the prevention of HIV / AIDS. In this group consisted of women with a cultural background, religion, education, knowledge, and from different locations so that the possibility of different results obtained on the prevention of HIV / AIDS, but in this study found the same results that the health care and HBM can prevent the incidence of HIV / AIDS.

Conclusion: Health care and HBM is one of the models for the prevention or stimulate someone to have healthy behaviors that decrease the risk of exposure to HIV / AIDS.

Keywords: HIV/AIDS, prevention, health care, health believe model, women

BACKGROUND

Human Immunodeficiency Virus (HIV), which used to be called Human Typhi Tyepe-Cell lymphotropic virus III (HTL-III) or lymphadenopathy virus (LAV), is a virus of the family cytopathic retrovirus that attacks a person's

immune system and then causes AIDS. HIV menyerang one of the types of white blood cells in charge of infection, such as blood cells called lymphocytes cells "T-4" or T-helper cell (T-helper cells), or which is also called the "Cell CD -4 ". HIV belongs to the group of "Retrovirus" because this virus has the ability to "copy-print" self genetic material within the genetic material of the host cells.¹

Acquired Immune Deficiency Syndrome (AIDS), a collection of symptoms or syndromes due to declining immune system by a virus called HIV. AIDS can affect a person's immune system, causing PLWHA (people living with HIV / AIDS) is very fragile and easily infected with various diseases.²

Described Fallon (1989), the MOH in 2003² on the transmission of HIV / AIDS, namely through; sexual contact, sexual contact occurred on deposit mixing cement and body fluids. This can occur in sexual contact between men with men and women with men. Through blood / blood products, blood transfusions or use of blood products from donors with HIV the risk is very high. Use of contaminated syringes have the AIDS virus together. Transmission from mother to baby at birth, vertical transmission from mother to baby in the uterus during pregnancy / during childbirth.

In 2014 the global situation regarding cases of HIV / AIDS is 15 million people accessing antiretroviral therapy (March 2015), 36.9 million [34.3 million–41.4 million] people globally were living with HIV, 2 million [1.9 million–2.2 million] people became newly infected with HIV, 1.2 million [1 million–1.5 million] people died from AIDS-related illnesses. Sedangkan kasus yang ditemukan di Asia dan Pasifik adalah there were 5 million [4.5 million–5.6 million] people living with HIV in Asia and the Pacific, there were an estimated 340 000 [240 000–480 000] new HIV infections in the region. New HIV infections declined by 32% between 2000 and 2014 than China, Indonesia and India account for 78% of new HIV infections in the region and the last in Asia and the Pacific, 240 000 [180 000–390 000] people died of AIDS-related causes in 2014.¹

Furthermore, to overcome the above problems, the WHO launched the **“Global Health Sector Strategy on HIV/AIDS: four targets for 2015”**. The goals of the Strategy are zero new HIV infections, zero AIDS-related deaths and zero discrimination in a world in which people living with HIV are able to live long, healthy lives. Reaching these goals requires drastically expanding the coverage and improvement in the quality of HIV prevention, diagnosis, treatment and care interventions. Designed to help achieve those outcomes, the Strategy is structured along four strategic directions: Strategic direction 1: Optimize HIV prevention, diagnosis, treatment and care outcomes; Strategic direction 2: Leverage broader health outcomes through HIV responses; Strategic direction 3: Build strong and sustainable systems; and Strategic direction 4: Reduce vulnerability and remove structural barriers to accessing services.¹

Data HIV / AIDS Ministry of Health by December 2013¹ one of which describes the ratio of HIV between men and women is 1: 1, and the ratio of AIDS men and women is 2: 1, and the highest number of AIDS cases from 1987-December 2013 is the housewife.

This condition is very alarming, in which a woman who only focus on domestic life became the victim of his choice. In India it is also a lot going on, primarily to housewives in rural areas with limited acting within his family that makes the husband can do anything and contracting HIV / AIDS and then pass on the mother.

Or low educational background incidence of housewives, incomprehension condom use for a husband or wife, an area that experiences a change from rural into urban areas with all contributions, including abundant number of sex workers.

Based on the above and consider exposure to HIV AIDS cases in Indonesia which puts housewives as well as the four most cases the strategy launched by WHO, the researcher is interested in participating in the area of prevention first strategy and will conduct research on prevention behavior if that could be pursued to lower the incidence of HIV / AIDS on a housewife?

OBJECTIVE

Research Saseendran et al (2004)¹ studied against 19 participants then conducted focus group discussions and in-depth interviews. The discussion about health care include knowledge of HIV/AIDS; modes of HIV transmission; knowledge of the 'window' period; knowledge of symptoms of HIV/AIDS; knowledge of HIV/AIDS cases in the neighbourhood; history of AIDS in the village; HIV as a socially sensitive secret disease; reasons to keep the disease secret; whether or not the prevalence of the disease is increasing; the profile of HIV-infected people; how villagers had contracted HIV infection; how infection could be prevented in the village; treatment for HIV/AIDS; the cost of treatment; health problems; health needs; economic problems; social problems; secrecy; stigma; sexual relations; and possible interventions. Health care the next thing to do is multiply the health care facilities due to most of the women said that they sought care when they had symptoms which were perceived as unbearable and for which they could not relieve with a home remedy or with symptomatic drugs like paracetamol or a pain killer which they would access over the counter at a pharmacy close to their residence. Kemudian Dr. Jim Yong Kim (2008)¹ menyimpulkan bahwa the HIV/AIDS response to date has had sizeable positive impacts on health care in many settings: building infrastructure and systems, raising the bar on quality, extending the reach of health care to socially marginalized groups, and engaging consumers. Than new investments in HIV/AIDS services have also exposed existing fragilities in health systems. In some cases expanding demand has stretched already overextended human resources and placed increasing burdens on infrastructure.

Keith Plowden, RN, PhD (2005)¹, conduct research on preventive behavior to reduce the incidence of HIV / AIDS on housewives to use as many as 20 participants, interviews were conducted young, single, heterosexual, Jamaican women between the ages of 18 and 30 years old, who recently immigrated to the United States and who live in the Miami-Fort Lauderdale metropolitan areas, selanjutnya participants in this study perceived HIV/AIDS as severe, but most women did not perceive themselves as susceptible to the disease. Perceived

benefits outweighed the perceived cost of practicing HIV/AIDS preventive behavior among these women. The single most motivating factor for practicing HIV/AIDS preventive behavior was knowing someone personally with the disease. However, not many women knew anyone with the disease, dan diperoleh hasil summary of HIV/AIDS-Prevention Knowledge and Behaviors/Practices Based on the responses, participants were able to describe HIV/AIDS transmission in a variety of social and biological contexts, summary of Health Beliefs about HIV/AIDS is the responses to this question indicate that participants believe that there are some external causes for HIV/AIDS, and that it is not just behavior, multiple explanations about HIV/AIDS were given, including biological and social causes, summary of Cultural Factors is influencing Health Beliefs Responses indicated that the women's culture is deeply embedded in their religious beliefs, which in turn influences their health beliefs and their health-seeking behavior. Much of the women's behavior is culturally influenced, summary of HIV/AIDS Perceived is health Beliefs In an attempt to understand participants' perceived HIV/AIDS-preventive health beliefs, they were asked questions based on the six tenets of the Health Belief Model. These include perceived susceptibility; perceived severity; perceived benefits minus perceived cost; perceived barriers, motivators, or cues to action; and self-efficacy. Supported by research Chattu Vijay Kumar (2014)¹ with the conclusion as public health professionals we must agree with behavioral interventions that are implemented cost effectively They require behavioral interventions that are specifically selected and tailored to suit local needs as articulated by affected communities. Than Elvis E. Tarkang (2015)¹ exposure that provided information about HIV/AIDS prevention and the HBM constructs dan the underlying concept of the HBM is that behaviour is determined by personal beliefs or perceptions about a disease and the strategies available to decrease its occurrence.

METHODS

The method used in the writing and discussion of this systematic review is a method of Evidence-Based Practice (EBP). EBN is an approach that can be used in the practice of health care, which is based on evidence or facts research results. EBN is done by doing a search journals, the publication of expert bodies, as well as a thesis or dissertation research results related to the topic of HIV / AIDS prevention in housewives.

Furthermore analyzed using Critical Appraisal Tools that adapts whether qualitative or quantitative research and found that the level of evidence jurnal. Synthesis is done on a similar article that has been grouped for discussion and the conclusion.

RESULTS

Interviews about people's knowledge about HIV, modes of transmission and to avoid infection is already well in rural India, but the knowledge of right and wrong about HIV still side by side. For example people know about HIV and

AIDS is a disease, but does not know what the difference is. Results of the interview about the need for services to prevent HIV in the female focus groups stressed the need for the provision of information obtained and services healthcare on how one can prevent HIV infection, especially on the prevention of sexual intercourse with commercial sex workers.

The HBM has been applied to a broad range of health behaviours and populations including health education topics such as sexuality education. Since the HBM is based on motivating people to take action, (like using condoms) it is applicable to sexuality education programmes that focus on: Primary prevention, for example, programmes that aim to prevent pregnancy, STDs and HIV/AIDS by increasing condom use, and, secondary prevention for example, programmes that aim to increase early detection of STIs or HIV to reduce their spread via unprotected intercourse and to ensure the early treatment of the conditions.

DISCUSSION

In this group consisted of women with a cultural background, religion, education, knowledge, and from different locations so that the possibility of different results obtained on the prevention of HIV / AIDS, but in this study found the same results that the health care and HBM can prevent the incidence of HIV / AIDS.

The HIV/AIDS response to date has had sizeable positive impacts on health care in many settings: building infrastructure and systems, raising the bar on quality, extending the reach of health care to socially marginalized groups, and engaging consumers. But new investments in HIV/AIDS services have also exposed existing fragilities in health systems. In some cases expanding demand has stretched already overextended human resources and placed increasing burdens on infrastructure. The detailed findings cannot be generalized outside the study setting but illustrate the social and health impact of the disease at village level. Social conditions in rural areas are characterized by poverty, gender inequality and illiteracy, which magnify the harmful impact of infection.

CONCLUSION

Health care and HBM is one of the models for the prevention or preventiv menstimulan someone so healthy behaviors that decrease the risk of exposure to HIV / AIDS. HBM study report if women perceived themselves as not susceptible to HIV/AIDS, mainly because they only have one sex partner (irrespective of how many other partners their partners have). Thus, they are less likely to participate in HIV/AIDS-preventive behavior such as condom use or to negotiate condom use. This is consistent with the Health Belief Model, which asserts that people will engage in preventive behavior (such as condom use) if they feel susceptible to a health condition (such as HIV/AIDS).

Researchers hope of preventive behavior through health care and HBM can also be applied in Indonesia, as the case of housewives as HIV/AIDS patients currently ranks second, when housewives affected by HIV / AIDS are very likely to menularakan on future generations would happen PMTCT, so if precautions

on these housewives get more attention, hopes will reduce the number of prisoners, both the mother and her children.

REFERENCES

1. Prince, Sylvia dkk. (1995). *Konsep Klinis Proses-Proses Penyakit (clinical concept of the illness process)*. 4 eds. Jakarta: EGC.
2. C.M Hudak dkk (1996). *Keperawatan Kritis (emergency nursing)*. Jakarta: EGC.
3. DEPKES RI. 2003. *Pencegahan Penularan dengan Kewaspadaan Universal dalam Pedoman Nasional Perawatan Dukungan dan Pengobatan bagi ODHA (prevention using national guideline, support and medication for ODHA)*. Jakarta, page 27
4. http://www.unaids.org/en/resources/documents/2015/20150714_factsheet
5. WHO. 2014. Global update on the health sector response to HIV.
6. HIV and AIDS Data (Kemenkes) Desember 2013.
7. Saseendran Pallikadavath, Laila Garda, Hemant Apte, Jane Freedman, R. William Stones. 2004. *"HIV/AIDS In Rural India: Context and Health Care Needs"*. Cambridge University Press.
8. Dr. Jim Yong Kim. Reformulates Simplistic Argument About HIV/ AIDS and Health Care Systems in a Fundamental Way. New York. 2008.
9. Keith Plowden, RN, PhD .2005. *"HIV/AIDS Preventive Behaviour in Recent-Immigrant Jamaican Women"*. Copyright 2005 by ProQuest Information and Learning Company.
10. Vijay Kumar Chattu. 2014. Role of biomedical and behavioral interventions and their evidence in prevention of HIV infection: A literature review. Africa Center for HIV/AIDS Management, University of Stellenbosch, Matieland, Stellenbosch, South Africa.
11. Elvis E. Tarkang, Francis B. Zotor. 2015. Application of the Health Belief Model (HBM) in HIV
12. Prevention: A Literature Review. Central African Journal of Public Health.

THE EFFECTIVENESS OF SPIRITUAL INTERVENTION ON DEPRESSION AMONG ELDERLY

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ABSTRACT

Background: Depression is a nature interference feeling which caused by prolonged affliction and connected by the overdue adaptation. The depression feeling in elderly in nursing homes have a great chance to be happened because of several factors, such as Biology, Psychology, Social, and Spiritually which could not filled optimally.

Purposes: The purpose of this study is to determine the effectiveness of spiritual intervention to reduce depression of elderly. The depression can be measure with Geriatric Depression Scale (GDS).

Method: The types and study designs in this research used pre-experimental study with pre-test post-test one group design. Firstly, respondents were given a pre-test with GDS questionnaire. Secondly, they were given Spiritual interventions by reading Holy Bible such as Mark 5:27-37, Mathew 11:28-30, Mathew 8:17, and reflection text, then sharing each other and lastly, post-test with GDS questionnaire. The population in this study was all elderly who were lived at Rindang Asih Nursing Homes which faith in Catholic, capable of read, listen, understand about instruction, and have no disabilities. Total sampling technique with inclusion-exclusion criteria was used and 34 respondents were recruited. Data were collected by GDS questionnaire and were tested with paired sample t-test.

Result: The results of statistical tests concluded that the variables had a significant result (0.004). It can be concluded that Spiritual intervention was effective to reduce depression levels in elderly.

Conclusion: Caregiver at Nursing homes can give routine activity such as reading or listening of the bible to reduce depression in elderly.

Keywords: Elderly, Depression, Spiritual Intervention, Bible

BACKGROUND

Aging is normal and natural process in human being, aging is not a disease but the end stage of human development and growth (Stanley and Patricia, 2006). There are many kind definition of elderly, World Health Organization (WHO) described that elderly is people between 45 – 90 year old, and UU No. 13 Tahun 1998 described that elderly is people more than 60 year old (Azizah, 2011; Siti

P.S.,2011).

UU No. 13 Tahun 1998 described that elderly having the same right in the social community life (Siti P.S.,2011). One of the application is nursing homes for elderly. Elderly who lived in Nursing homes will have difference need achievement than elderly who lived with their family (Azizah, 2011). Elderly who lived in nursing homes will have many changes, such as: environment change, place to life, new people with difference characteristic, activities change, and rule at nursing homes. All changes will have effect to support system, coping, motivation and spiritual well being (Kristen, L. And A. Nola, 2004). That conditions can caused mood problem. Mood Problem without good adaptation will lead psychologice problem, one of the problem is depression (Azizah, 2011; Davis and Craig, 2009). And so there are 50-70% elderly with depression at nursing homes (Stanley and Patricia, 2006).

Elderly who lived at nursing homes have fulfilled their needs such as food, home and clothes, but human being have a complex needs that consist of biologic, social and spiritual need (Mauk, Kristen.L and Schmidt, A.Nola, 2004). Biologic factor is the change of health state, Psychology factor related to self motivation to find the aim of living at nursing homes. Social factor related to quality of social relationship among elderly, good relationship will create good support system and adaptive coping on elderly(Azizah, 2011; Siti P.S.,2011). Spiritual factor consist of two demensions that are horizontal and vertical demension. Horizontal demension is relationship between human being, and vertical demension is relationship with the God (elizabeth, 2002).Monakow, Goldstin and Harrington research showed that in frontalis lobus there is "God Spot" that connected the human soul with the God. This reasearch to be fondation for another reasearch that are relationship between neuro system and relegiousity and relegius activities will increase level of spirituality and adaptive coping (Tria, 2012). Spiritual Theory described relationship between relegius activities with spiritual well being and adaptive coping (Mauk, Kristen.L and Schmidt, A.Nola, 2004).

Relegius activities as routine activity will increase spiritual well being on elderly, and so will lead motivation and adaptive coping that can be one of nursing intervention to prevent depression at nursing homes (Stanley and Patricia, 2006).

OBJECTIVE

This research aimed to measure the effectiveness of spiritual intervention toward depression among elderly.

METHODS

This research used pre-experimental study with pre-test post-test one group design. The population in this study was all elderly who were lived at Rindang Asih Nursing Homes. Total sampling technique with inclusion-exclusion criteria was used and 34 respondents were recruited. The inclusive criteria were elderly with depression that measured with GDS, which faith in Catholic, capable of read, listen, understand about instruction, and have no disabilities, and agree to be respondent. Intervention given at once time. Firstly, respondents were given a pre-test with GDS questionnaire. Secondly, they were given Spiritual interventions by reading Holy Bible such as Mark 5:27-37, Mathew 11:28-30,

Mathew 8:17, and reflection text, then sharing each other and lastly, post-test with GDS questionnaire. The evaluation of this study taken on the early and the end of intervention. Instrument used in this research is GDS questionnaire to know the level of depression. The data has been collected analyzed by t- test with significance level (α) of 0.05. Processing and data analysis was done by computer.

RESULTS

Data obtained at this research have no normality of spread data so it used wilcoxon Match pair test to know the difference of depression based on GDS questionnaire before and after spiritual intervention.

Tabel 1.
Distribution of depression based on GDS questionnaire before Spiritual intervention among elderly, Semarang City, May 2014 (n = 34)

| Category | GDS Score | Frequency | Percentage (%) | Mean | SD | Min-Max |
|----------------|-----------|-----------|----------------|------|-------|---------|
| Not Depression | 1 | 4 | 11,8 | 4,94 | 2,605 | 1-12 |
| | 2 | 3 | 8,8 | | | |
| | 3 | 2 | 5,9 | | | |
| | 4 | 7 | 20,6 | | | |
| Depression | 5 | 3 | 8,8 | | | |
| | 6 | 7 | 20,6 | | | |
| | 7 | 3 | 8,8 | | | |
| | 8 | 2 | 5,9 | | | |
| | 9 | 2 | 5,9 | | | |
| | 12 | 1 | 2,9 | | | |

Tabel 2.
Distribution of depression based on GDS questionnaire After Spiritual intervention among elderly, Semarang City, May 2014 (n = 34)

| Category | GDS Score | Frequency | Percentage (%) | Mean | SD | Min-Max |
|----------------|-----------|-----------|----------------|------|-------|---------|
| Not Depression | 1 | 5 | 14,7 | 3,82 | 2,259 | 1-11 |
| | 2 | 7 | 20,6 | | | |
| | 3 | 5 | 14,7 | | | |
| | 4 | 3 | 8,8 | | | |
| Depression | 5 | 7 | 20,6 | | | |
| | 6 | 4 | 11,8 | | | |
| | 7 | 2 | 5,9 | | | |
| | 11 | 1 | 2,9 | | | |

Tabel 3.

Table of the mean difference of depression based on GDS questionnaire Before and After Spiritual intervention among elderly, Semarang City, May 2014 (n = 34)

| Variable | N | Mean | Z | p value |
|------------------------------|----|------|--------|---------|
| Before Spritual Intervention | 34 | 4,94 | -2,908 | 0,004 |
| After Spiritual Intervention | 34 | 3,82 | | |

DISCUSSION

Distribution of GDS score under 5 based on GDS questionnaire before spiritual intervention showed that 55,9 % (19 elderly) are not depression. This research shown that respondent that not depression have positive social interaction and routine relegius activities by them self or in a group. This activities will make elderly be active and done their role and so will lead good mood on elderly, because they fill about their existing at nursing homes (Nuryati, T., Indarwati, R. And Setho, H., 2012). This condition supported by theory that there is relationship between doing the role with level of depression, because elderly whose have a lot of activities with self empowerment will lead adaptive coping (Mauk, Kristen.L and Schmidt, A.Nola, 2004).

This research found that respondent with GDS score more than 5 before spiritual intervention is 44,1% (15 elderly) are depression, this condition caused by physical and social factor that lead elderly have poor relationship. Poor relationship will have limited social support that have negative effect to the aim, hope and motivation being lived at nursing homes. This condition can make maladaptive coping and adaptation problems that can be develop to be depression (Mauk, Kristen.L and Schmidt, A.Nola, 2004 ; Amalia, Hesti Isya and Indahria. 2008).

The difference of frequency of respondent who has GDS score more than 5 after given spiritual intervention is 44,1 % (15 elderly) to 21,23 % (7 elderly). This shown that spiritual intervention can decrease depression among elderly. Spiritual interventions by reading Holy Bible and reflection text, then sharing each other will lead respondent to have positive thingking that make new hope (Tria, 2012). This supported by research that elderly who have faith in God will have effective coping to solve the problem (Mauk, Kristen.L and Schmidt, A.Nola, 2004). The other study found that relegius activities is effective to decrease depression among elderly . There is relationship between relegius activities with depression. Elderly with more relegius activities will be prevent from depression (Kurnianto, S., Purwaningsih, and Nihayati, H.N., 2011; Cahyono, Andik, N., 2012).

CONCLUSION

The result of this research indicated that after depression elderly given Spiritual interventions by reading Holy Bible such as Mark 5:27-37, Mathew 11:28-30, Mathew 8:17, and reflection text, then sharing each other, the depression score based on GDS questionnaire of elderly was decreased.

Therefore can decrease depression score based on GDS questionnaire , including increasing independence in self care activities, and also increasing dependency on family, and increase elderly's quality of life. Spiritual interventions by reading Holy Bible such as Mark 5:27-37, Mathew 11:28-30, Mathew 8:17, and reflection text, then sharing each other as one of nursing intervention is effective to be implemented on elderly with depression. Caregiver at nursing homes should do spiritual intervention as routine activities in a group.

REFERENCE

- Azizah, Lilik M. 2011. *Keperawatan Lansia*. Yogyakarta: Graha Ilmu
- Amalia,Hesti Isya dan Indahria. 2008. *Hubungan Dukungan Sosial Dengan Depresi Pada Lanjut Usia*. www.psychology.uui.ac.id. Diakses pada 9 Juni 2014
- Cahyono,Andik.N. 2012. *Hubungan Spiritualitas Dengan Depresi Pada Lansia di UPT Pelayanan Sosial Lanjut Usia Magetan*. www.journal.unair.ac.id. Diakses pada 9 Juni 2014
- Davis,T dan Craig,TKJ. 2009. *ABC Kesehatan Mental*. Alih bahasa,Alifa Dimanti. Jakarta: EGC
- Elizabeth. J.H.,2002. *Spiritual care;nursing theory, research, and practise*. New Jersey: Prentice Hall
- Kurnianto,S. Purwaningsih dan Nihayati,H.N. 2011. *Penurunan Tingkat Depresi pada Lansia dengan Pendekatan Bimbingan Spiritual*. Media jurnal Ners. Volume 6. Nomor 2. www.journal.unair.ac.id. Diakses pada 31 Mei 2014
- Mauk, Kristen.L dan Schmidt, A.Nola. 2004 *Spiritual Care in Nursing Practise*. Lippincot Williams & Wilkins
- Nuryanti,T. Indarwati,R., dan Hadisuyatmana,Setho. 2012. *Hubungan Perubahan Peran Diri Dengan Tingkat Depresi Pada Lansia Yang Tinggal Di UPT PSLU Pasuruan Babat Lamongan. Indonesian Journal of Community Health Nursing*. Volume 1. Nomor 1. www.journal.unair.ac.id. Di akses pada 9 Juni 2014
- Siti, P.S. 2011. *Psikologi Usia Lanjut*. Yogyakarta: Gajah Mada University Press
- Stannley,M dan G.B,Patricia. 2006. *Buku Ajar Keperawatan Gerontik*. Alih bahasa, Nety.J dan Sari.K. Jakarta: EGC
- Tria. 2012. *Penerapan Metode "Spiritual Night Care" pada Lansia sebagai Metode Efektif Peningkatan Motivasi Spiritual dalam Menghadapi Sisa Kehidupan*. <http://t1214-fkp11.web.unair.ac.id/>. Diakses pada 28 Oktober 2013

THE CORRELATION BETWEEN QUALITY OF LIFE AND SEXUAL INTERCOURSE OF MENOPAUSE MOTHERS ON PABELAN VILLAGE, SUKOHARJO

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ABSTRACT

Background: Menopause is the phase when menstrual period stops permanently. When it happens, the estrogen becomes less and it affects the sexual intercourse activity. The changes in sexual intercourse activity might also influences the life quality of menopausal mothers.

Objectives: The research was aimed to identify the correlation between life quality and sexual intercourse activity of menopausal mothers in Pabelan Village, Sukoharjo.

Method: This was a quantitative non experimental research using cross sectional approach. The sample was chosen using cluster sampling resulted in 125 respondents. Questionnaire was used to collect the data. The data was then analyzed using Chi Square test

Result and Discussion: The result showed that most of menopausal mothers had low life quality, counted 67 persons (53,6%) and 54 persons (43,2%) often have sexual intercourse. The result of Chi Square statistical test with p value $0,000 < 0,05$ shows the correlation between life quality and sexual intercourse done by menopausal mothers in Pabelan Village, Sukoharjo.

Conclusion and recommendations: It is advised to those menopausal mothers to have the initiative seeking for information and consulting to health care staff about the problems during menopausal period that are related to life quality and sexual intercourse that fits the need of menopausal mothers.

BACKGROUND

Menopausal female population trends in Indonesia is getting higher. According to data from the Ministry of Health of Indonesian women who enter menopause phase amounted to 7.4% of the population in 2000. The number is expected to increase to 11% in 2005 and will rise again by 14% or about 30 million people by 2015. At the National Symposium Menopause Society for Indonesia (PERMI) noted that the average age of female menopause in Indonesia 48-53 years and has five main symptoms experienced in dealing with menopause such as, muscle or joint pain, fatigue and missing energy, loss of sexual desire, wrinkles skin, difficulty concentrating and *hot flushes*. Results of research and studies, data showed that as many as 75% of women who experience menopause

will feel it as a problem or a nuisance both physically and psychologically, while as many as 25% do not make an issue (Achadiat, 2007).

Menopause is the phase of life after menstruation has ended as a result of reduced production of estrogen in the body with age (Benson, 2008). Women who have experienced menopause are considered to have a lot of problems, among others feel the shifts and changes in both physical and psychological that lead to the onset of a crisis and psychological disturbances that will affect the quality of life for women entering menopause phase (Rostiana & Kurniati, 2009).

For some women with menopause will affect the physical and psychological changes that different for every individual. Physical complaints are often felt by most women menopause is a change in sexual activity. Sexual activity at the age of menopause is a vulnerable age with a variety of issues, among others, loss of sexual desire and ability coitus, fear of losing her femininity, as well as the loss of a sense of love of the husband. It is well known not only to sexual relations is indicated for reproduction but also to meet the basic human needs psychological which if fulfilled human being will feel satisfied, happy, comfortable, peaceful, and new energy flow in the body (Nurwahyuni, Ngatimin, & Arsunan, 2012). Crisis of confidence sometimes arise as a result of changes in perceived during menopause that many women overcome with anxiety menopause (Rostiana & Kurniati, 2009).

Sexual activity during menopause varies greatly, the woman who had the opportunity to have sex with her partner regularly showed stability sexual behavior in menopause. Most menopausal women experience a decrease in sexual intercourse activity. The main reason is due to appear physical changes genital tools, reduced lubricant fluid, depletion of the female genitals, decreased muscle contraction genitals, and others, including pain during intercourse (Benson, 2008).

Physical complaints that arise course will damage the health of the woman, including the psychological development. In addition, it can affect the quality of life. Quality of life is defined as an individual's perception of their functioning in the fields of life. More specifically, is the individual assessment of their position in life, in the context of culture and value system where they live in relation to individual goals, expectations, standards and what the individual attention. Women who go through menopause feel the shifts and changes that lead to physical and psychic emergence of a crisis and manifested themselves in psychological symptoms among others, is not satisfied with the circumstances, fear left her husband, worried that households will be threatened, or even feel would be a widow (Larasati, 2012).

Quality of life for an individual to another individual is very different depending on one's perception and how to behave, coupled with personal experience as well as understanding and acceptance of one's person to cycle reproductive system changes occur. Many women complain that with the advent of menopause they will become someone who is no longer useful. Individuals who feel that way makes the quality of life negatively. There is also a feeling that menopause is a natural thing that they are women who have undergone menopause but has a positive quality of life. Positive quality of life occurs because the individual considers the crisis is only temporary with the support of family and people closest to it will be missed (Ibrahim, 2005).

The total population of postmenopausal women in the village Pabelan Sukoharjo in 2014 has reached 181 people. In some cases the menopause women begin to withdraw from social life and become useful again in married life. Menopausal women feel unable to fulfill the sexual desires of her husband anymore because he had entered menopause. Changes in sexual relations activities menopausal women felt especially painful vagina during sexual intercourse activity. The purpose of this study was to analyze the relationship between quality of life by sexual relations activities in the mother menopause in Sub Pabelan Sukoharjo.

METHODS

This type of research in this study is a quantitative research with correlation method using *cross sectional* study design *non-experimental*. Research conducted at the Village Pabelan Sukoharjo on 12-22 May 2015.

The population in this study is the mother menopause who still have a husband and still active in sexual intercourse. The sample in this study is 125 people out of a population of 181 mothers menopause. Sampling technique used was *cluster sampling* method (sampling group).

This study uses the technique of data collecting instruments respondent data documentation. Data collection instruments used are questionnaire respondent characteristics, *The Menopause Specific Quality of Life Questionnaire (MENQOL)* to measure the level of quality of life of menopausal mothers, as well as the *Sexual Activity and Attitude Questionnaire (SAAQF)* to measure the activity of sexual intercourse in women menopause.

The analysis is done by the analysis of univariate and bivariate analysis. Used correlation test using *Chi Square* test. The test using 95% confidence level ($\alpha = 0.05$).

RESULT

1. Frequency Distribution Characteristics of Respondent

| Characteristics Respondent | N | (%) |
|----------------------------|----|------|
| Age | | |
| 44-54 years old | 47 | 37,6 |
| 55-65 years old | 66 | 52,8 |
| 66-76 years old | 11 | 8,8 |
| >76 years old | 1 | 0,8 |
| Age at Menopause | | |
| 40-50 years old | 92 | 73,6 |
| 51-60 years old | 33 | 26,4 |
| Work | | |
| Housewife | 90 | 72,0 |
| Entrepreneur | 13 | 10,4 |
| Government Employees | 6 | 4,8 |
| Private Employees | 4 | 3,2 |
| Retired | 1 | 0,8 |

| Characteristics Respondent | N | (%) |
|--------------------------------|-----|-------|
| Education | | |
| No School | 6 | 4,8 |
| Not Complete Elementary School | 18 | 14,4 |
| Elementary School | 36 | 28,8 |
| SMP | 24 | 19,2 |
| SMA | 20 | 16,0 |
| Academic/University | 21 | 16,8 |
| Total | 125 | 100,0 |

Table 1 shows that the mother menopause are most common in the age range 55-65 years as many as 66 respondents (52.8%). According to the variable age at menopause experience, as many as 92 respondents (73.6%) experienced menopause at age 40-50 years. More than half of respondents (72.0%) worked as housewives. Based on respondents' level of education, most respondents as many as 36 respondents (28.8%) last complete primary school education.

2. Prevalence Life Quality of Menopausal Mothers on Pabelan Village, Sukoharjo

| Life Quality | n | % |
|----------------------|-----|------|
| High Quality of Life | 58 | 46,4 |
| Low Quality of Life | 67 | 53,6 |
| Total | 125 | 100 |

Based on the above data it can be seen that respondents with lower quality of life for as many as 67 respondents (53.6%). This means that the majority of respondents have a low quality of life in undergoing menopause.

3. Prevalence Sexual Intercourse of Menopausal Mothers on Pabelan Village, Sukoharjo

| Sexual Intercourse | N | % |
|--------------------|-----|------|
| Never | 29 | 23,2 |
| Rarely | 42 | 33,6 |
| Often | 54 | 43,2 |
| Total | 125 | 100 |

Based on the above data it can be seen that respondents who perform sexual activity with frequent frequency (a few weeks or a few days) as many as 54 respondents (43.2%).

4. Analysis The Correlation between Life Quality and Sexual Intercourse of Menopausal Mothers on Pabelan Village, Sukoharjo

The result of Chi Square statistical test with $p \text{ value } 0,000 < 0,05$ shows the correlation between life quality and sexual intercourse done by menopausal mothers in Pabelan Village, Sukoharjo.

| Life Quality | Sexual Intercourse | | | | | | Total | | P Value |
|--------------|--------------------|------|--------|-----|-------|-----|-------|-----|---------|
| | Never | | Rarely | | Often | | | | |
| | n | % | n | % | n | % | n | % | |
| High | 3 | 2,4 | 2 | 16, | 3 | 27, | 58 | 46, | 0,000 |
| | | | 1 | 8 | 4 | 2 | | 4 | |
| Low | 2 | 20,8 | 2 | 16, | 2 | 16, | 67 | 53, | |
| | 6 | | 1 | 8 | 0 | 0 | | 6 | |
| Total | 2 | 23,2 | 4 | 33, | 5 | 43, | 125 | 100 | |
| | 9 | | 2 | 6 | 4 | 2 | | | |

DISCUSSION

Although already entered menopause, but sexual needs still exist. Sexual needs are part of human life, so the quality of sexual life also determines the quality of life. Changes in sexual intercourse activity in menopausal women is not only influenced by the decline in reproductive function, but also influenced by the quality of life. The higher the quality of life of a person so possessed sexual activity also increased.

Sexual activity in menopausal mother in the village Pabelan Sukoharjo shows the prevalence of women who have sexual intercourse with a frequency activity is often as much as 54 respondents (43.2%). Sexual intercourse activity is an activity related to the activity of the body that can meet the sexual desire in postmenopausal women by means of glue of relationships with a partner. According to the analysis of the research that has been done, sexual intercourse activity linked to several factors including the age of the respondent, education, and employment. On the results showed that the frequency of sexual relations activities are often a large part carried out by the mother menopause by the age group 44-54 years as many as 45 respondents (36.0%). In contrast to the 55-65 year age group where in this group of respondents had never again perform sexual intercourse activity as much as 20 respondents (16.0%).

According to the results of interviews conducted by researchers with the informant, one of the reasons that led to sexual relations activities never again be done by age group 55-65 years since menopause women are not interested anymore with her partner, embarrassed by the children and grandchildren, as well as most of the menopausal women feel old so inappropriate to think let alone perform sexual activity even though they still have a partner.

Aryo Prayitno opinion and states that any person associated with the elderly are people aged 65 years and older. Sexual performance among older women has decreased, with increasing age, the adrenal androgens lose the ability to produce estrogen, causing increased vaginal dryness and pain during sexual intercourse (Herlambang, nd).

Pain during sexual intercourse activity during menopause can be prevented with the use of a lubricant to reduce pain during sexual intercourse. Menopausal women who have a high level of knowledge will be able to search for information both from a health and electronic media about efforts to prevent a decline in the

function of sexual activity during the menopause. Menopausal women who have a lot of social activity outside the home will be able to exchange ideas with friends about the changes related to sexual activity during the menopause dialmi (Suhaidah, 2013).

Decline in sexual function during menopause is often used as a frightening specter for some menopausal women. They feel that they would leave her husband because of her because her partner has sexual desires can not be fulfilled anymore, they felt it was not beautiful anymore, they felt that he had become an old man, worried that households will be threatened, or even feel would be a widow , This will affect the quality of life lived by menopausal women (Larasati, 2012).

Physical complaints that arise during the course of menopause will disturb the health of the woman, including the psychological development. Quality of life for every individual to another individual is very different depending on one's perception and how to behave, coupled with personal experience as well as understanding and acceptance of one's reproductive cycle of the system changes that occur (Ibrahim, 2005).

In the results of this study indicate that as many as 42 respondents (33.6%) have a lower quality of life. Saporinah the opinion states that at the age of 55 to 65 years is the age group that reached the stage praenium which at this stage will experience a variety of endurance and a decline in health as well as a variety of psychological pressure.

Menopause a woman's quality of life is also affected by factors that lived educational and social activities outside the home. Menopausal women who have a higher education more often able to enjoy life and feel safe in their daily lives because they were serving the school has more knowledge about the complaints experienced during menopause-related quality of life lived. Menopausal women who have a social activity outside the home will be able to exchange information with peers about the changes experienced during menopause, especially changes in sexual function that will affect the quality of life of menopausal women (Putri, Wati, & Ariyanto, 2014).

Results of this study showed that respondents who worked as housewives have a lower quality of life as much as 52 respondents (41.6%). A woman who acts only as a housewife only the level of knowledge tend to be a lot of changes. Menopausal women who work as a housewife will be passive face the changes that occur during menopause. According to the results of interviews conducted by investigators and informants mentioned that some of the respondents who works as a housewife only accept changes in circumstances experienced during menopause with resignation the absence of a desire to change for the better.

Many women complain that with the advent of menopause they will become someone who is no longer useful. Individuals who feel that way makes the quality of life negatively. There is also a feeling that menopause is a natural thing that they are women who have undergone menopause but has a positive quality of life (Ibrahim, 2005).

The best thing you do for a man when his wife entered menopause phase is to be tolerant, to understand, love, and support. Facing sexual disorders in postmenopausal women, husband support is indispensable. Husbands and wives

should not blame each other in dealing with sexual problems during menopause because it becomes a reasonable experienced by women in menopause. it can make the quality of life lived by menopausal women is getting better (Nurwahyuni et al., 2012).

CONCLUSIONS AND SUGGESTIONS

Based on the results of research and previous discussion, it can be concluded: 1) Quality of life subjectively tend to be better in postmenopausal women aged 44-54 years, age at menopause 40-50 years experience, well educated, and a mother who is a mother's menopause household; 2) subjective sexual activity tends to be better in postmenopausal women aged 44-55 years, age at menopause 40-50 years experience, well educated, and menopause mother who is a housewife.

Based on the results of the above conclusions, the suggestions can be given: 1) educational institutions can continue to develop nursing in providing nursing care in postmenopausal women about sexual reproductive health changes during menopause that can improve the quality of life of menopausal women; 2) The menopausal women are encouraged to actively search for information and consultation on health during menopause to health workers or print media or electronic media according to the age of menopause in women's health needs so as to improve the quality of life lived during menopause and changes in sexual activity experienced during the period menopause; 3) Further studies should be done by adding variables associated so as to better understand the life of menopausal women.

REFERENCES

- Achadiat CM. (2014). Fitoestrogen untuk wanita menopause. Kesrepro dot info. Diambil dari <http://www.mitrainti.org> tanggal 7 Januari 2014
- Benson RC .(2008). *Buku saku obstetri dan ginekologi*. Jakarta: EGC.
- Herlambang A. (2014). Klasifikasi lansia menurut para ahli 2 [Internet]. Akademia. Diambil dari <http://www.academia.edu/> tanggal 10 Januari 2014
- Ibrahim. (2005). *Psikologi wanita*. Bandung: Pustaka Hidayah.
- Larasati T. (2012). Kualitas hidup pada wanita yang sudah memasuki masa menopause. Diambil dari <http://www.google.co.id/www.gunadarma.ac.id> tanggal 7 Maret 2012
- Nurwahyuni, Ngatimin R, Arsunan.(2014). Perilaku wanita menopause di wilayah kerja Puskesmas Kolaka Kabupaten Kolaka tahun 2012 diambil dari <http://www.google.co.id/> tanggal 12 Januari 2014
- Putri ID, Wati MD, Ariyanto. (2014). Kualitas hidup wanita menopause (quality of life among menopausal women). *Pustaka Kesehatan*. 2(1):167–74.
- Rostiana, Triana; Kurniati NMT.(2009). Kecemasan pada wanita yang menghadapi menopause. *J Psikologis*. 3(1):76–86.
- Suhaidah D. (2013). Hubungan tingkat pengetahuan dengan tingkat kecemasan perempuan dalam menghadapi menopause di wilayah kerja Puskesmas Kelurahan Pulo Gebang Jakarta Timur. Universitas Islam Negeri Syarif Hidayatullah. Diambil dari <http://www.google.co.id/repository.uinjkt.ac.id> pada tanggal 3 April 2013

THE EFFECT OF DZIKIR CONCERNING TO PAIN LEVEL AFTER SURGICAL OPERATION REDUCTION INTERNAL FIXATION (ORIF)

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ABSTRACT

Background: Surgical operation of ORIF affect painful which disturb the patient's comfortable. Dzikir have psychological benefit psychologis which affect comfortable and spiritual feelings focused to Allah, so could give a relaxation effect to percepts pain.

Objective: The objectives of this thesis is to find out the effect of dzikir concerning to pain level felt after surgical operation of ORIF in RS Ortopedi Prof. Dr. R. Soeharso Surakarta.

Methods: This thesis was done by true eksperimen by applying randomized control group pre-test post-test design method. The number of sample was 44 respondents were obtained by consecutive sampling based on inclusion and exclusion criteria and classified using a simple random sampling to 22 experimental group and 22 control group.

Results: The average pain level of the respondents on experimental group after surgical operation of ORIF before gave dzikir was 5.18 and the pain level after dzikir was 4.05. The average pain level pretest of the respondents on control group was 4,82 and pain level of posttest was 4,77. The result of pain level before and after gave dzikir to the experiment groups shows that the significance points 0.001 and 0.317 in the control group.

Conclusion: The decrease of pain level in the experimental group were given analgesic therapy and dhikr greater than the control group who were given analgesic therapy. This thesis could be used as reference and consideration for nurse to apply dzikir as a complementary therapy to diminish the pain level to the post-surgical operation patient's of ORIF.

Keyword: *Dzikir, Pain, Pasca ORIF*

BACKGROUND

ORIF post-surgical pain is acute and is at severe levels. Pain is classified into types of somatic pain in the (deep somatic pain) with characteristics that involves somatic tissue damage to the body systems start of integument, vascular muscle tissue, and bones inside (Smeltzer SC, 2002). Surgical pain is self-limiting (no more than 7 days), which generally takes 24 hours minimum weight surgical pain relief at day 3-4 (Soenarjo, 2010). Side effects of post-surgical pain ORIF is

the recovery time is prolonged, inhibition of early ambulation, and decreased function of the system (Smeltzer, 2002).

Pain management using two ways: pharmacological and non-pharmacological techniques. Side effects of pharmacological analgesic therapy would be detrimental to the patient in terms of the economy and add to the complaints that will add to the long recovery time. Pharmacological techniques will be more effective in treating pain, accompanied by non-pharmacological pain management techniques (Smeltzer, 2002).

Dzikir has psychological benefits that provide a feeling of comfort and spiritual benefits gives a feeling of focusing on God (Purwanto & Zulekha, 2007). *Dzikir* affects a person in a developing awareness by focusing on objects in the particles of consciousness, such as the flow of breath, body sensations, sounds, thoughts, perceptions and impulses (Sallum, 2006). *Dzikir* has a relaxing effect on the body system that causes the brain waves become more calm and relaxed and taken to the conscious mind is empty (Maimunah & Retnowati, 2011). Management of pain using *dzikir* is a technique of pain management that involves the spiritual aspects. The fulfillment of spiritual needs can help achieve a cure and religion as a source of support for someone who is experiencing weakness or pain to evoke the spirit of healthy and maintaining health to prosper (Potter, 2003).

Techniques involving the spiritual aspect has never been done in the ORIF surgical pain. Purpose of this study was to determine the influence of remembrance on the level of post-surgical pain open reduction internal fixation (ORIF) in RS Ortopedi Prof. Dr. R. Soeharso Surakarta.

METHOD

This research is a quantitative research with true-experimental design with randomized control group pretest posttest design (Riyanto, 2011). Researchers compared the pain levels before and after treatment in the experimental group were given standard therapy *dzikir* with the level of pain in the control group who were given standard therapy. This research was conducted in RS Ortopedi Prof Dr R Soeharso Surakarta, because quite a lot of cases ORIF surgery. This research was conducted in May 2014.

Population is all of the patients who had surgery in RS Ortopedi Prof. ORIF Dr. R. Soeharso Surakarta. In this study, adult patients aged 18 to 65 who had undergone surgery ORIF. Samples using consecutive sampling technique to meet the specified sample size by 44 respondents, grouped 22 experimental group and 22 in the control group. Grouping by simple random sampling, which gives the serial number of the appropriate arrival and then scrambles numbers, which came out in odd scramble the subject of the experimental group and out in the scramble even become the subject of a control group. The instrument of this research using observation sheet in the form of Numeric Rating Scale were created and adapted to the implementation of the research that has been proven validity and reliability (Potter, 2006). Techniques *dzikir* performed in the experimental group with a duration of 15 minutes, consisting of 4 minutes setting the focus and 11 minutes to recite dhikr with the words "Subhan Allah" 33 times, "Alhamdulillah" 33 times, "Allah akbar 33 times, and "Laillahailallah" 33 times.

Univariate data analysis performed to obtain the frequency distribution characteristics of respondents. Bivariate analysis using the Mann-Whitney test to test the level of pain pretest and posttest between the experimental group and the control group. Wilcoxon test was conducted to determine differences in pain levels before and after treatment in the experimental group and the pain levels before and after treatment in the control group.

RESULT

1. The level of pain before administration of dhikr in the experimental group and the control group

Table 1 the level of pain Before Dhikr In Experimental Group and Control Group at Orthopedic Hospital Prof. Dr. R. Soeharso Surakarta (n = 44), May 2014

| Group | n | Mean | Standard deviation | Standard Error Mean | Min-Maks | CI (95%) | P Value |
|--------------|----|------|--------------------|---------------------|----------|-------------|---------|
| Experimental | 22 | 5.18 | 0.795 | 0.169 | 4-6 | 4.83 – 5.53 | 0.195 |
| Control | 22 | 4.82 | 0.907 | 0.193 | 3-6 | 4.42 – 5.22 | |

Based on Table 1 using the Mann-Whitney test known to demonstrate the value of the average, the level of post-surgical pain ORIF in the experimental group was 5.18 with a standard deviation of 0,795 and a degree of post-surgical pain ORIF in the control group was 4.82 with a standard deviation of 0.907. This shows that the rate of post-surgical pain ORIF before given dhikr in the experimental group was higher than the level of pain control group.

2. The level of pain after being given dhikr in the experimental group and the control group

Table 2 The level of pain after Dhikr In Experimental Group and Control Group at Orthopedic Hospital Prof. Dr. R. Soeharso Surakarta (n = 44), May 2014

| Group | n | Mean | Standard deviation | Standard Error Mean | Min-Maks | CI (95%) | P Value |
|--------------|----|------|--------------------|---------------------|----------|-----------|---------|
| Experimental | 22 | 4.05 | 0.999 | 0.213 | 3 -6 | 3.60-4.49 | 0.011 |
| Control | 22 | 4.77 | 1.020 | 0.218 | 2- 6 | 4.32-5.23 | |

Based on Table 2 using the Mann-Whitney test showed the average value of the experimental group pain level of 4.05 with a standard deviation of 0.999 and the level of pain control group was 4.77 with a standard deviation of 1.020. The average value of the level of pain between the experimental group and the control group, the rate of post-surgical pain after being given dhikr ORIF in the control group was higher than the experimental group.

3. Differences in pain levels before and after being given the dhikr in the experimental group and the control group

Table 3 Pain levels before and after Given Dhikr In Experimental Group and Control Group at Orthopaedic Hospital Prof Dr Soeharso Surakarta (n = 44), May 2014

| Group | n | Mean | Standard deviation | Standard Error Mean | CI (95%) | P Value |
|--------------|----|-------|--------------------|---------------------|-------------|---------|
| Experimental | 22 | 1.136 | 0.941 | 0.201 | 0.719-1.554 | 0.001 |
| Control | 22 | 0.045 | 0.213 | 0.045 | 0.049-0.140 | 0.317 |

Based on Table 3 using the Wilcoxon test showed the level of pain before and after being given the dhikr in the experimental group mean difference of 1.136 with a standard deviation of 0.941 and p value = 0.001 or $p \leq (0.05)$. While the level of pain pretest and posttest in the control group had an average difference of 0.045 with a standard deviation of 0.213 and $p = 0.317$ or p values $\geq (0.05)$. Statistical test results, this study shows that the value of $p \leq (0.05)$, then H_0 is rejected, which means that there are differences in average levels of pain before and after dhikr.

DISCUSSION

ORIF postoperative conditions cause symptoms such as severe pain that occurs in the first few days of surgery and not more than seven days (Smeltzer, 2002). ORIF post-surgical pain arising as a form of sensory response due to trauma or surgery performed on the injured part (Smeltzer, 2002). Pain is a subjective response that is based on the patient's assessment in accordance with the perceptions experienced. Patients perceive pain that is felt very mengganggukenyamanan, thus disturbing the patient in getting rest and sleep.

Pain in this study was measured at an average of 14.75 hours after surgery in the experimental group and an average of 13.45 hours after surgery in the control group. According to the theory, the rate of post-surgical pain occurring within 24 hours of the first classified in severe pain (Soenarjo, 2010). In this study, the perceived pain patients are at moderate pain level. This occurs because of the difference of characteristic data providing analgesic (ketorolac) with a pain level measurement carried out at an average of 2.45 hours in the experimental group and 2.32 in the control group. This is consistent with the theory that analgesics can reduce pain with a half-life 4-6 hours, injection of ketorolac peaks reached in 120 minutes at the onset of 30 minutes (Deglin, 2004). Pain in this study was measured as an analgesic still affect the pharmacological therapy of pain as a narcotic or opiate that can inhibit prostaglandin and inhibiting cell during inflammation as well as work on peripheral nerve receptors to reduce the transmission and reception of pain stimulus (Potter, 2006).

In the control group there is a decrease in the average of the first measurement. In this group only performed motivation for calm and asked for healing to God. Judging from the factors that affect pain as age, gender, culture, the meaning of pain, anxiety, coping patterns, experiences, and family support (Smeltzer, 2002). Experience of someone who in general often experience pain

will tend to anticipate severe pain. Adaptive coping patterns will facilitate the person cope with the pain and vice versa maladaptive coping patterns will be difficult for someone to overcome the pain. Respondents in the control group experienced a reduction in pain levels explained that when pain arises, respondents focus will ask for healing to God.

This is supported by research Mustawan (2008) on "Hubungan Penggunaan Mekanisme Koping Dengan Intensitas Nyeri Pada Pasien Post Operasi Fraktur Femur di Unit Orthopedi RSUD Islam Kustati Surakarta" which explains that the patients had mild pain intensity using a coping mechanism focuses on the problems. In accordance with the conditions of this study the control group in a study conducted by Ayudianningsih (2009) "Pengaruh Teknik Relaksasi nafas dalam Terhadap penurunan Tingkat Nyeri Pada Pasien Pasca Operasi Fraktur Femur di Rumah Sakit Karima Utama Surakarta". The study was conducted on 20 respondents in the control group and some respondents decreased levels of pain with treatment provision of positive motivation as factors influencing the reduction in pain may be caused by the experience that often experience pain, anxiety lowers serotonin as participating systems and secrete substances analgesic body's natural, religious beliefs that consider pain and illness as a way to cleanse sin and as a source of strength against pain experienced.

Bivariate analysis results show the level of pain before and after the experimental group was given *dzikir* has significant differences with $p = 0.000$. The control group there was no significant difference before and after being given *dzikir* with $p = 0.317$. These findings are consistent with research conducted Sitepu (2009) on "Effect of Zikr Meditation on Post Operative Pain Among Muslims Patiens Undergoing Abdominal Surgery, Medan, Indonesia". In these studies, showed differences in reduction of pain after major abdominal surgery between the control group and the intervention group on the first day and the second day of treatment, with p-value 0.01, respectively.

This study shows that there is a *dikir* effect against post-surgical pain internal Open Reduction Fixation (ORIF). *Dzikir* affect the brain in perceiving pain impulses are simultaneously entered through the cerebral cortex hypothalamus and the adrenal medulla of the adrenal suppressing the function mechanisms that are not essential for life thereby reducing stressful conditions. Therapy given that *dzikir* which is the activity of repetition of words by remembering Allah to relax themselves and influence the perception of pain the patient feels (Bayumi, 2005).

The words of *dzikir* remembrance of confidence, strength, feeling safe, peaceful and happy because he felt he was close to God and are in custody and his protection (Najati, 2005). Results are expressed respondents in this study explain that they feel calm and relaxed after being given *dhikr*. The word *dhikr* cause the release of endorphins which are natural pain killers of the body.

Dzikir competing impulses reach the cerebral cortex can influence pain impulses. Calm and relaxed circumstances arising from the endorphins that are released and affect the midbrain issued Gama Amino Butyric Acid (GABA), which serves to inhibit the conduction of electrical impulses from one neuron to other neurons by neurotransmitter in the synapse. Midbrain also issued enkepalin and beta endorphins which induce analgesic effects neurotransmitter to eliminate

pain in the center of the somatic sensory perception and interpretation in the brain as a modification of the interpretation sensorik somatic pain so that patients can reduce pain perception. which serves to inhibit the transmission of pain impulses along sensory nerves and nerve nociceptors Perif to the dorsal horn then to the thalamus, cerebral, and ultimately decrease the perception of pain (Al-Firdaus, 2011).

This study involves setting deep breath used to utter pronunciation *dzikir*. Calm and relaxed state can increase endorphins hormones that serves to inhibit the transmission of pain impulses along nerve nociceptors sensory and peripheral nerves to the dorsal horn then to the thalamus, cerebral, and ultimately decrease the perception of pain (Smeltzer, 2002). A relaxed state obtained the respondent would lead to increased levels of serotonin, which can cause neuronneuron local spinal cord secrete enkephalins which can inhibit the presynaptic and postsynaptic the fibers of pain type C so that the system of analgesics can block pain signals in the delta a spot entry into the spinal cord and modulate pain in the central nervous system (Guyton, 2008). According to research conducted by Ayudianingsih (2009) states that the deep breathing relaxation techniques able to reduce postoperative pain in patients with femur fractures at the Hospital Main Karima Surakarta with $p = 0.006$. Relaxation can reduce tension, anxiety and pain. The individual is able to use his belief in overcoming the problems of the disease. According to the Fundamental Nursing, trust involves belief in the power of the highest kekeatan, instructions soul, God or Allah. Beliefs that arise together with the trust will lead to self-transcendence. The strength of one's spirituality is a reason for someone to adapt to the disease and move on to the recovery period (Potter, 2006).

CONCLUSION

The level of pain before administration of *dzikir* in the experimental group and the control group with an average pain level of 5.18 and 4.82. The level of pain after being given *dzikir* in the experimental group and the control group gained an average value of 4.05 and 4.77 levels of pain. There are differences in the level of post-surgical pain Open Reduction Internal Fixation (ORIF) before and after being given the dhikr at RS Ortopedi Prof Dr R Soeharso Surakarta with $p = 0.000$. A decrease in the level of pain in the experimental group is greater than the decrease in pain in the control group. Researchers hope the various parties to follow up on this study. For nursing services, *dzikir* is expected to be taken into consideration for part of the ministry in the ward to be one nursing interventions in reducing postoperative pain in patients with ORIF. For education is expected to add insight and knowledge to the broader education of nonpharmacological therapy in the treatment of pain response involving patients spirituality. For the development of nursing research is expected to be the development of further research on the influence of remembrance in patients with post-surgical ORIF or types of surgery other orthopedic the number of respondents who more, the criteria are more specific such as the selection of the sample on one type of fracture that is homogeneous, and the time of therapy and the frequency of treatment longer and use design research methods better by controlling factors that affect pain and level of spirituality.

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REFERENCE

- Al-Firfaus, I. 2011. *Rahasia Kekuatan Doa & dzikir bagi Kesehatan*. Jogjakarta: Laksana
- Ayudianingsih, N.G. 2009. Pengaruh Teknik Relaksasi nafas dalam Terhadap penurunan Tingkat Nyeri Pada Pasien Pasca Operasi Fraktur Femur di Rumah Sakit Karima Utama Surakarta. *Skripsi*. Fakultas Ilmu Kesehatan Universitas Muhammadiyah Surakarta. Surakarta
- Bayumi, S.M. 2005. *Hidup Sehat dengan Dzikir & Doa*. Jakarta: Pusaka Al-Kautsar
- Deglin, J.H. 2004. *Pedoman obat untuk Perawat*. Edisi 4. Jakarta: EGC;
- Guyton, A.C., & Hall, J.E. 2008. *Fisiologi Kedokteran*. Edisi 11. Alih Bahasa: Irawati et al. Jakarta: EGC
- Maimunah, A., & Retnowati, S. 2011. Pengaruh Pelatihan Relaksasi Dengan Zikir untuk Mengatasi Kecemasan Ibu Hamil Pertama. *Skripsi*. Fakultas Psikologi Universitas Gajah Mada. Yogyakarta
- Mustawan, Z. 2008. Hubungan Penggunaan Mekanisme Koping Dengan Intensitas Nyeri Pada Pasien Post Operasi Fraktur Femur di Unit Orthopedi RSU Islam Kustati Surakarta. *Skripsi*. Fakultas Ilmu Kesehatan Universitas Muhammadiyah Surakarta. Surakarta
- Najati, M.U. 2005. *Al-qur'an dan Psikologi (Terjemahan)*. Jakarta: Aras Pusaka;
- Potter, P.A. 2003. *Fundamental Keperawatan*. Edisi 7. Jakarta: Salemba Medika
- _____. 2006. *Buku ajar fundamental keperawatan: konsep, proses, dan praktik*. Edisi 4. Jakarta: EGC.
- Purwanto, S., & Zulekha, S. 2007. Pengaruh pelatihan relaksasi religius untuk mengurangi insomnia. *Skripsi*. Fakultas Ilmu Kesehatan Universitas Muhammadiyah Surakarta. Surakarta
- Riyanto, A. 2011. *Aplikasi Metodologi Penelitian Kesehatan*. Yogyakarta: Nuha Medika
- Sallum, A. 2006. *Dahsyatnya energi iman*. Surabaya: ELBA
- Sitepu, N.F. 2009. Effect of Zikr Meditation on Post Operative Pain Among Muslim Patients Undergoing Abdominal Surgery, Medan, Indonesia. Prince of Songkla University. Tesis. Prince of Songkla University. Songkla
- Smeltzer, S.C. 2002. *Buku Ajar Keperawatan Medikal Bedah Brunner & Suddarth* Edisi 8 Volume 1. Jakarta: EGC.
- _____. 2002. *Buku Ajar Keperawatan Medikal Bedah Brunner & Suddarth* Edisi 8 Volume 3. Jakarta: EGC
- Soenarjo. 2010. *Anestesiologi*. Semarang: Ikatan Dokter Spesialis Anestesi dan Reanimasi (IDSAI)

EFFECTS OF THE PROVISION OF RED BETEL LEAF DECOCTION ON THE BLOOD SUGAR LEVELS IN PEOPLE WITH DIABETES MELLITUS TYPE 2 IN KROMPAKAN AND BULUGEDE VILLAGE, KENDAL REGENCY

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ABSTRACT

Background: Betel leaf is one of the herbal remedies which can empirically treat diabetes. Researches concerning the benefits of betel leaf to lower blood sugar levels have been conducted, but they are still limited to be experiments in mice.

Objective: The purpose of this study was to determine the effects of red betel leaf decoction on the blood sugar levels in people with type 2 diabetes mellitus in Krompakan and Bulugede village, Kendal regency.

Methods: This study used a quasi-experimental design with pre-post-test in one group (one-group pretest and posttest design).

Result: The results showed that the average blood sugar levels of people with diabetes mellitus type 2 before given red betel leaf decoction was 305.60 and it turned to 286.48 after given the red betel leaf decoction. There was an influence of the red betel leaf decoction on the blood sugar levels in people with type 2 diabetes mellitus in Krompakan and Bulugede village, Kendal with p value = 0.007.

Conclusion: From the findings, it is suggested that people with Diabetes Mellitus type 2 regularly drink red betel leaf decoction for lowering their blood sugar level.

Keywords: betel leaf decoction, blood sugar levels, people with diabetes

BACKGROUND

Diabetes mellitus (deutschmark) is a group of metabolic disorders characterized by high blood glucose (hyperglycemia). Hyperglycemia is caused by the abnormality of insulin secretion, insulin function or both (American Diabetes Association, as cited in Smeltzer & Bare, 2008). According to Soegondo, Soewondo and Subekti (2009), Diabetes occurs when the body could not produce adequate insulin to maintain normal blood glucose or when the body cells are not responsive to insulin.

The International Diabetes Federation (IDF) reported that in 2002, 177 million people in the world were suffered from diabetes and the WHO predicted that the number would increase by 300 million in the next 25 years (Siswono, 2005). The number of diabetes patients in Indonesia, according to IDF was 5.6 million in 2000. IDF predicted that by 2020, there will be 178 million people suffered from diabetes (Soegondo et al., 2009). Diabetes cases in Indonesia

ranked the fourth highest in the world, after India, China and the United States of America (USA). In 2011, there were 32.5 million Indonesians with DM, in which 21.8 million lived in big cities while 10.7 million of them were from villages (Adam, 2011).

In 2012, the Indonesian Ministry of Health reported 208,319 DM cases were in Central Java Province. 183,319 of the cases were non insulin dependent diabetes mellitus (NIDDM) patients whereas 26,147 cases were insulin dependent diabetes mellitus (IDDM) patients (Department of Health, 2012). From the total prevalence of DM cases in Central Java Province, Cilacap district held the highest rank with 3.9% from the total cases, followed by Tegal district (3.1%), Surakarta district (2.8%) and Pemalang district (2.1%). Salatiga district ranked the lowest with 0.8% (Indonesian Department of Health, 2008).

Diabetes is closely related to the blood sugar metabolism. The increase of blood sugar would activate the pancreas to produce insulin. Diabetes has many complications. The most common and the deadliest complication is a heart attack/stroke. This complication occurred when high blood glucose eventually damage blood vessels, nerve system and other internal organ systems. Complex substance in sugar thickened blood vessels. The blood circulation to internal organs, nerve system and integument system then decreased (Badawi, 2009)

Clinically, there are two types of diabetes, type 1 and type 2 diabetes. Type 1 diabetes was due to the decrease of insulin production. This condition was an autoimmune disorder. Whereas type 2 diabetes caused by the resistance/irresponsive insulin, had the highest number of cases (about 90-95% of the total cases of diabetes). Type 2 diabetes usually suffered by adult patients was caused by aging process, overweight and lack of physical activity. Type 2 diabetes developed slowly but progressively. It was difficult to detect in the early stage because the symptoms were light such as fatigue, irritability, poliuri, polidipsi and incurable wounds. The cause of diabetes is multi factors. It has not been completely understood but the main problem is unresponsive body cells towards insulin (Smeltzer & Bare, 2008).

There have been many kinds of diabetes therapies. Physical activity, diet, insulin therapy and herbal medication are the example. Patients can also use anti diabetes medicine which is popularly known as synthetic medicine. However, this therapy is expensive and has many side effects, for instance bloating and diarrhea. Other side effects of this therapy are infracts myocardial and the enhance risk of cardiovascular disease (Badan Pengawas Obat dan Makanan [BPOM], 2010). Several diabetes medicine were withdraw from the market by BPOM because of the high risk of the side effects.

Considering the situation above, diabetes medication shifted to tradition therapy. The enhancing factors of the use of traditional therapy were the increase of life expectancy, the failure of modern medication and the easy access of herbal medicice around the world (Sukandar, 2006). Other influencing factor was Indonesia as climate tropical country had numerous varieties of plantations that could serve the purpose of traditional medicine.

Traditional therapy is based on empirical factors, habit and experience. Usually the therapy mechanism can not be explained in detail like synthetic therapy (Wijayakusuma 2004). According to Malvinas et al. (2010), there are a lot

of medicine plants that are empirically proven to be useful and have been used as anti diabetes agent. Chemical compound in the herbs is reported safe for the diabetes patients Research about anti diabetes agent is still on going although we have learned more than 400 types of plants which have hypoglycemic effect. One of the medicine plants which has not yet canvassed scientifically is leaf plants Betel. Leaf Betel is one of the herb medicine which empirically can cure Diabetes mellitus.

Previous researches which had been performed, reported that leaf extracts Betel can to be used as an anti diabetes agent. According to fitokimia leaf Betel contains alkaloid, flavonoid, tannin and saponin with peptida (Ivorra, et al. , 1989, arambewela, 2005). Alkaloid and flavonoid had hypoglycemic activity which could decrease blood glucose degree (the, 2000) and can demote blood pressure (Duarte, 2001). Tanin and saponin can functioned as antimicrobial for bacteria and virus (Akiyana, et al. , 2001, Yulia, 2011). Temporary peptida as counter oxide (Agil, et al. , 2006, chen, et al. , 1996).

Research suggested leaf benefit Betel that can be used to demote blood sugar degree during the time new at test in mouse. Like young researcher from Institute agriculture Bogor (IPB), Mega Safithri and Farah Fahma (2008) canvass toksisitas leaf water Betel and the ability in demote mouse blood glucose degree. The indication was that water gift boiled Betel dose 20 g/kg bb during 10 days can demote mouse blood glucose degree as big as 37,4%. In this research also compared between water boiled leaf Betel and medicine hipoglikemik oral that is glibenklamid. Result that got obvious water boileds Betel has effect antihiperglikemik not far differ from glibenklamid ($p > 0,05$). So that leaf extract Betel can be maked use as alternative in therapy Diabetes so that can decrease side effects consequence risk that evoked synthetic medicine.

Result survey foreword at village Krompaanan district Gemuh regency Kendal found 8 sufferers Diabetes type 2 while at village Bulugede found 25 sufferers Diabetes type 2. Based on background on, researcher interested to canvass gift influence boiled leaf Betel red towards blood sugar degree in sufferer Diabetes mellitus type 2 at village Krompaanan and village Bulugede regency Kendal.

This research aimed to detects gift influence boileds leaf Betel red towards blood sugar degree in sufferer Diabetes militus type 2 at village Krompaan and village Bulugede regency Kendal

METHODS

This research was quasi-experiments with pre - post test group (one - group pre test - post test design). Population in this research was 33 patients with type 2 diabetes mellitus 2 at village Krompaan and village Bulugede regency Kendal. Sample in this research were recruited from village Krompaan and village Bulugede regency Kendal.

Sampling method in this Research was purposive sampling. The samples of this study were those with certain characteristics as set in the inclusion criteria (Notoatmojo, 2010). The sample size in this study was 25 respondents.

The researchers used a blood sugar measurement tool (glucometer AUTOCHK) and observation sheet. We analyzed the data to measure the effect

of red Betel leaf towards blood sugar level. The normality of the data were analyzed with Shapiro Wilk test. Result normality got value 0,866 for blood sugar degree before given to boiled leaf Betel and 0,667 for blood sugar degree after given to boiled leaf Betel ($p > 0,05$) so that data were not in normal distribution. Therefore paired t-test analysis was performed to measure the mean difference between two groups.

RESULTS

1. Characteristic Respondent
Age

Table 1

Frequency Distribution of Respondent with Type 2 Diabetes Mellitus Based on Age

| Mean | Median | Modus | Standar deviasi | Min | Max |
|-------|--------|-------|-----------------|-----|-----|
| 53,76 | 55,00 | 55 | 4,352 | 42 | 60 |

Table 1 showed that the minimum age of the respondents was 40 years old and the maximum was 60 years old. In average, the respondents aged 54 years old.

2. Blood sugar degree before given boiled leaf Betel red and blood sugar degree after given to boiled leaf Betel red

Table 2

Frequency Distribution of Respondent Based on Blood Sugar Degree in Sufferer Diabetes Mellitus Type 2 Before Given to Boiled Betel Leaf Red

| Mean | Median | Modus | Standar deviasi | Min | Max |
|--------|--------|-------|-----------------|-----|-----|
| 305,60 | 298,00 | 324 | 96,708 | 79 | 512 |

Table 2 showed that the blood sugar degree average diabetes mellitus type 2 before given to boiled leaf betel red as big as 305,60, values middle blood sugar degree 298, blood sugar degree modus values 324, standard blood sugar degree deviation 96,708, bottommost blood sugar degrees 79 and highest blood sugar degree 512.

Table 3

Frequency Distribution of Respondent Based on Blood Sugar Degree in Sufferer Diabetes Miletus Type 2 After Given to Boiled Leaf Betel Red

| Mean | Median | Modus | Standar deviasi | Min | Max |
|--------|--------|-------|-----------------|-----|-----|
| 286,48 | 287,00 | 274 | 103,325 | 57 | 489 |

Table 3 showed that is sufferer blood sugar degree average diabetes mellitus type 2 after given to boiled leaf betel red as big as 286,48, values middle blood sugar degree 287,00, blood sugar degree modus values 274, standard blood sugar degree deviation 103,325, bottommost blood sugar degrees 57 and highest blood sugar degree 489.3. Gift influence boiled leaf betel red towards blood sugar degree in sufferer diabetes mellitus type 2

Table 4

The Effect of Boiled Leaf Betel Red Towards Blood Sugar Degree In Patients with Diabetes Militus Type 2 At Village Krompaan And Village Bulugede Regency Kendal, February 2015, (N=25)

| Blood Sugar Degree | Mean | Std deviation | t | A |
|---------------------|--------|---------------|-------|-------|
| Before intervention | 305,60 | 96,708 | 2,966 | 0,007 |
| After intervention | 286,48 | 103,325 | | |

Research data analysis result showed that in gift execution boiled leaf betel red at village Krompaan and village Bulugede regency Kendal got average blood sugar degree before done leaf gift betel red as big as 305,60 while after gift boiled leaf betel red got average blood sugar degree as big as 286,48, so that happen sugar degree depreciation before and after gift boiled leaf betel red. Then the paired t-test at can result p. Value= 0.007. This result is smaller than significance that appointees that is 0,05 and test result value t-test as big as 2,966 that mean there gift influence boiled leaf betel red towards blood sugar degree in sufferer diabetes mellitus type 2 at village Krompaan and village Bulugede regency Kendal.

DISCUSSION

1. The blood sugar level before given a red betel leaf decoction in people with type 2 diabetes mellitus

According this study we found that the mean of blood sugar level was 305,60, the median was 298, the mode was 324, standard deviation was 96,708, the minimum of blood sugar level was 79, and the maximum of blood sugar level was 512. There are respondents in blood sugar levels by 79, this can happen because the respondents have healthy diet.

Betel Leaf can be one of the herb medicine empirically that cure Diabetes mellitus. Red betel leaf also contain another compound that is saponin polifenol, and flavonoid. Compound polifenol and flavonoid has antioksidan so that has activity antihiperglikemik (Ivora et al. , 1988).

One study was conducted by Mega Safithri and Farah Fahma from Bogor Institute of Agriculture (IPB), have examined the toxicity of red betel leaf extract and ability to decrease blood glucose levels. The provision of an extract up to 2000 grams of kg body weight is safe for consumption and doesn't have a toxin (poison). Dosage is patient body weight multiplied by 20 milligrams per kilogram of body weight. If the patient weight of 50 kg, he need one kilogram of red betel leaf extract fresh and 500 milliliters of boiling

water. This extract is taken twice a day every morning and evening as much as 250 milliliters (Mega Safithri and Farah Fahma, 2006).

Several studies have been conducted that betel leaf extract has antidiabetic agents. According to phytochemicals, Red betel leaf also contains another compound that is alkaloid, saponin, tannin, flavonoid, peptid (Ivorra, et al., 1989, Arambewela, 2005). Compound alkaloid and flavonoid has activity hipoglikemik (Sang, 2000) and can decrease blood pressure (Duarte, 2001). Tannins and saponins can serve as an antimicrobial for bacteria and viruses (Akiyana, et al., 2001, Yulia, 2011). Peptides have a antioxide (Agil, et al., 2006, Chen, et al., 1996).

Research on the benefits of betel leaf can be used to decrease blood sugar levels tested in mice. Such as young researchers from the Bogor Institute of Agriculture (IPB), Mega Safithri and Farah Fahma (2008) have examined the toxicity of water betel leaf and ability to reduce blood glucose levels of the mice. It showed that the boiled water betel leaf 20 g /kg for 10 days can decrease blood glucose levels of mice by 37.4%. In this study also compared between the water boiled betel leaf and the oral hypoglycemic drug, it is glibenclamide. Result that the effect of boiled water betel has antihyperglycemic is no different with glibenclamide ($p > 0.05$). So the betel leaf extract can be used as an alternative in the treatment of diabetes to reduce the risk side effects of synthetic drugs. One study was conducted by Dewi, Yesi Febnica (2012) found that the extract of red betel leaf (*Piper crocatum*) 2% at a dose of 50 mg / kg wieght and a dose of 100 mg / kg weight, can reduce blood glucose levels of a male white mice (*Rattus novergicus*) compare with glibenclamide 0.02% (the dose of 1 ml / kg weight).

A similar study was conducted by Handayani, Mugi Sri (2009), it was seen that there was a statistically significant change in blood glucose levels $p < 0.05$. The effective blood glucose level decreased in first assessment (5 g/kg weight) of 63,7%. While the extract of red betel leaf influence toward weight gain, although there was no significant.

Research conducted by Chotimah, Siti (2009) showed that the extract of red betel leaf have a significant influence toward decrease in blood glucose levels with Sig. $0.000 < 0.05$. Red betel leaf extract has a significant influence on the decrease in blood glucose levels and increase levels of mice urine glucose.

2. The blood sugar level after given a red betel leaf decoction in people with type 2 diabetes mellitus

According this study we found that the mean of blood sugar level after given a red betel leaf decoction was 286.48, the minimum of blood sugar level was 57, and the maximum of blood sugar level was 489. From 25 respondents there are 4 respondents (16.0%) has increase the blood sugar levels after given a red betel leaf decoction. This can happen because the respondents have unhealthy diet.

Several studies have been conducted that betel leaf extract has antidiabetic agents. According to phytochemicals, Red betel leaf also contain another compound that is alkaloid, saponin, tannin, flavonoid, peptid (Ivorra,

et al. , 1989, Arambewela, 2005). Compound alkaloid and flavonoid has activity hipoglikemik (Sang, 2000) and can decrease blood pressure (Duarte, 2001). Tannins and saponins can serve as an antimicrobial for bacteria and viruses (Akiyana, et al., 2001, Yulia, 2011). Peptides have an antioxide (Agil, et al., 2006, Chen, et al., 1996).

Research on the benefits of betel leaf can be used to decrease blood sugar levels tested in mice. Such as young researchers from the Bogor Institute of Agriculture (IPB), Mega Safithri and Farah Fahma (2008) have examined the toxicity of water betel leaf and ability to reduce blood glucose levels of the mice. It showed that the boiled water betel leaf 20 g /kg for 10 days can decrease blood glucose levels of mice by 37.4%. In this study also compared between the water boiled betel leaf and the oral hypoglycemic drug, it is glibenclamide. Result that the effect of boiled water betel has antihyperglycemic is no different with glibenclamide ($p > 0.05$). So the betel leaf extract can be used as an alternative in the treatment of diabetes to reduce the risk side effects of synthetic drugs.

Risk factors for increasing blood sugar include lifestyle, stress and emotion, obesity, age, drug effect example steroid, and diet (Fox's Kilvert, 2010).

The experimental study with white mice, Safithri and Fahma (2007) reported that the red betel dose of 3,22 g / kg showed the effect of decrease blood glucose levels by 23.61%, no difference from the effects by glibenclamide (20%), At a higher doses, 20 g / kg, antihyperglycemic effect in red betel leaf show doubled 37.41%

A similar study was conducted by Handayani, Mugi Sri (2009), it was seen that there was a statistically significant change in blood glucose levels $p < 0.05$. The effective blood glucose level decreased in first assessment (5 g/kg weight) of 63,7%. While the extract of red betel leaf influence toward weight gain, although there was no significant.

3. Influence red betel leaf (*Piper Crocatum*) decoction on the blood sugar levels in people with type 2 diabetes mellitus

Research result shows that there is gift influence red betel leaf towards blood sugar level in people Diabetes militus type 2 with p value 0,007.

The contains that found in red betel leaf are karvakrol, eugenol, and tanin. Karvakrol has desinfektant, counter mushroom, so that can be used for medicine antiseptik in mouth smell and fluor albus. Eugenol can be used to decrease ill taste, while tanin can be used to cure stomachache. Not only that, red betel leaf also can be used in cure breast cancer (Sudewo, 2007).

Red betel leaf also contain another compound that is saponin polifenol, and flavonoid. Compound polifenol and flavonoid has antioksidan so that has activity antihyperglukemik (Ivora et al. , 1988).

The contains that found in red betel leaf is flavonoid as antioxidant that effect is as a catcher of free radicals thus preventing the action of diabetogenic for damaged β cells pancreas (Handayani, 2009). So will trigger the pancreas to secrete insulin and the body will not be a deficiencies

supply of insulin because insulin has a central role in regulating blood glucose concentration.

According Wibudi (2009) there are five treatments to decrease blood glucose level. The fifth treatment are reduce sugar production by the liver, triggers insulin secretion, inhibit the breakdown of sugars in the intestine, improves the sensitivity of the body's cells toward insulin, and improve the function of cells pancreas.

One study was conducted by Dewi, Yesi Febnica (2012) found that the extract of red betel leaf (*Piper crocatum*) 2% at a dose of 50 mg / kg wieight and a dose of 100 mg / kg weight, can reduce blood glucose levels of a male white mice (*Rattus novergicus*) compare with glibenclamide 0.02% (the dose of 1 ml / kg weight).

A similar study was conducted by Handayani, Mugi Sri (2009), it was seen that there was a statistically significant change in blood glucose levels $p\ 0.02 < 0.05$. The effective blood glucose level decreased in first assessment (5 g/kg weight) of 63,7%. While the extract of red betel leaf influence toward weight gain, although there was no significant.

Research conducted by Chotimah, Siti (2009) showed that the extract of red betel leaf have a significant influence toward decrease in blood glucose levels with Sig. $0.000 < 0.05$. Red betel leaf extract has a significant influence on the decrease in blood glucose levels and increase levels of mice urine glucose.

REFERENCES

- Adam, John. MF. 2011. Adam, J. M. F. (2011). *Klasifikasi dan kriteria diagnosis diabetes mellitus yang baru*, cermin dunia kedokteran. Download date 12 November 2014. From <http://www.Kompas.com/kesehatan/news/.htm>.
- Agil F, Ahmad I, Mehmood Z. 2006. Antioxidant and free radical scavenging properties of twelve traditionally used Indian medical plants. *Turk J Biol* 30: 177-183
- America Diabetes Assocation (2010), *Diagnosis and Classification of Diabetes Mellitus*. Available from: http://care.diabetesjournals.org/content/27/suppl_1/s5.full. Download date 30 November 2014.
- American Diabetes Association (ADA) tahun 2005. *Diagnosis and Classification of Diabetes Mellitus*. Diabetes Care.
- Arambewela LSR. 2005. Antidiabetic activities of agneous and ethanolic extracts of piper betle leaves in rats. *J of Ethno Pharmacology* 102: 239-245
- Arikunto, 2006. *Prosedur Penelitian Suatu Pendekatan Praktek*. Jakarta: Rineka Cipta
- Backer, C.A, Bakhuizen van den Brink, 1963, *Flora of Java (Spermatophytes Only)*, Vol. I, Wolter-Noordhoff, NVP., Groningen.
- Badawi, 2009. *Melawan dan Mencegah Diabetes*. Yogyakarta: Araskah
- Brunner L, Suddart, D. 2002. *Buku Ajar Keperawatan Medical Bedah (H. Kuncara, H. Hartono, M. Ester YAsih, Terjemahan)*. (Ed.8) Vol. 1 Jakarta : EGC; 1227,

- Chen HM, Muramoto K, Yamaguchi F, Nokihara K. 1996. Antioxidant activity of designed peptides based on the antioxidative peptide isolated from digests of soybean protein. *J Agric Food Chem* 44: 2619-2623
- Chotimah, Siti. 2009. *Pengaruh Ekstrak Daun Sirih Merah (Piper Crocatum) Terhadap Penurunan Kadar Glukosa Darah Dan Kadar Glukosa Urin Tikus (Rattus Norvegicus) Galur Wistar Dengan Pembebanan Glukosa Sehari.* (Skripsi not publication).
- Depkes, 2008. Prevalensi Diabetes Mellitus Di Indonesia <http://www.depkes.go.id/index.php/berita/press-release/414prevalensi-diabetes-mellitus-di-indonesia.html>. Download date 20 November 2014.
- Dewi, Yesy Febnica. 2012. *Efektifitas Ekstrak Daun Sirih Merah (Piper crocatum) Terhadap Penurunan Kadar Glukosa Darah Tikus Putih Jantan (Rattus novergicus) yang di Induksi Aloksan.* (Skripsi not publication).
- Dinkes Jateng, 2012. *Profil Kesehatan Provinsi Jawa Tengah*
- Duarte, C.M., and H. Kirkman. 2001. *Methods for the Measurement of Seagrass Abundance and Depth Distribution.* In: Short, F.T., R.G. Coles, and C.A.Short (eds.) 2001. *Global Seagrass Research Methods.* Elsevier
- Fox, C., & Kilvert, A. 2010. *Bersahabat dengan Diabetes Tipe 2.* Depok: Penebar Plus
- Gardner D.G., Shoback D. 2007. *Greenspan's Basic & Clinical Endocrinology.* 8th ed. United States of America : The McGraw-Hill Companies.
- Handayani, Mugi Sri 2009. *Pengaruh Pemberian Ekstrak Daun Sirih Merah (Piper Crocatum) Terhadap Kadar Glukosa Darah dan Berat Badan Pada Tikus Putih (Rattus Norvegicus) Galur Wistar Dengan Induksi Aloksan.* (Skripsi not publication).
- Hidayat, Alimul. A. .2007. *Metode penelitian keperawatan dan teknik analisis.* Jakarta: Salemba medika
- Ivorra MD, Paya M, Villar A. 1989 A Review of Natural Product and Plants as Potensial Antidiabetic Drugs. *J Ethnopharmacol* 27:243-275.
- Malviya, Neelesh, Sanjay Jain, dan Satna Malviya 2010. *Anti diabetic Potential of Medicinal Plant. Acta Poloniae Pharmaceutica-Drug Research.* Vol 67 No. 2 pp. 113-118
- Mega Safithri dan Farah Fahma, 2008. Analisis Proksimat dan Toksisitas Akut Ekstrak Daun Sirih Merah yang Berpotensi Sebagai Antidiabetes. *Jurnal Gizi dan Pangan, Maret 2012, 7(1): 43-48*
- Notoatmojo, 2010. *Metodologi Penelitian Kesehatan.* Jakarta : PT. Rineka Cipta
- Nursalam, 2003. *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan: PedomanPedoman Skripsi, Tesis dan Instrumen Penelitian.* Jakarta: Salemba Medika
- Perkeni, 2006. *Konsensus Pengelolaan Dan Pencegahan Diabetes Mellitus Tipe 2 Di Indonesia.* Jakarta : Perkeni
- Siswono, 2005. *P2M & PL dan LITBANGKES.* Download date 20 November 2014 <http://www.depkes.go.id>
- Smeltzer, S, & Bare. 2008. *Brunner & Suddarth's Textbook of medical surgical nursing.* Philadelphia : Lippincott
- Soegondo, S.,Soewondo,P, & Subekti,I. (2009). *Penatalaksanaan diabetes mellitus terpadu.* Fakultas Kedokteran Universitas Indonesia

- Sudewo, B. 2005. Basmi Penyakit dengan Sirih Merah. Jakarta: Argomedia Pustaka
- Sukandar E.Y. 2006. *Tren dan paradigma dunia farmasi, industri-klinik-teknologi kesehatan*. http://itb.ac.id/focus/focus_file/orasi-ilmiah-dies-45.pdf, 2 November 2014
- Wibudi, A. 2009. *Mekanisme Kerja Sambiloto sebagai Antidiabetes*. Disertasi. Institut Pertanian Bogor
- Yulia R. 2011. Daya anti mikroba ekstrak dan fraksi daun Sirih merah (piper betle lim). *Jurnal Ilmu Dasar* 12(1) : 6-12.

A 3D pyramid with a spiral of flags around it. The pyramid's faces are decorated with intricate, colorful patterns. A ribbon of various national flags, including the United States, United Kingdom, Japan, and others, spirals around the pyramid. The background is a solid light orange color.

List of Oral Presenters

3rd Java International Nursing Conference 2015

**“Harmony of Caring and Healing Inquiry for Holistic Nursing Practice; Enhancing Quality of Care”
Semarang, 20 – 21 August 2015**

| 1st Day : Thursday, August 20th 2015 (15.30 – 17.00 p.m) | | |
|---|--|---|
| Room : Guntur Hall 1 | | |
| Topic : Application Of Holistic Nursing In Education & Management | | |
| NO | PRESENTERS | TITLE |
| 1 | Ma. Elizabeth C. Baua | The Lived Experiences Of Faculty Caring By The Nursing Faculty And Students In A Problem Based Learning Environment At St Paul University Philippines |
| 2 | Anissa Cindy Nurul Afni ¹⁾ | A Review Of Literature: Nursing Competencies In Disaster Management; Implication For Nursing Curriculum Of Disaster Nursing |
| 3 | Suhartini Ismail ¹⁾ , Urai Hatthakit ²⁾ , Tippamas Chinawong ³⁾ | Caring Science Within Islamic Contexts; A Literature Review |
| 4 | Hery Wibowo ¹⁾ , Retty Ratnawati ²⁾ , Dian Susmarini ³⁾ , Indah Winarni ⁴⁾ , Kumboyono ⁵⁾ | Enhancing Nurses Experience In Collaboration With The Physicians In The Emergency Room |
| 5 | Jed Patrick Montero Catalan | Care Needs Versus Care Supplied: The Nursing Strategies For Senior Gays And Lesbians |
| 6 | Irwan Hadi ¹⁾ , Baiq Nurainun Apriani Idris ²⁾ , Sopian Halid ³⁾ | Hospital Survey On Patient Safety Culture For Nursing Staffs In West Nusa Tenggara Central Hospital. |
| 7 | Andy Gibbs | Developing Collaborative Curricula In Nursing |
| 8 | Sri Padma Sari ¹⁾ , Widodo Sarjana ²⁾ | The Self-Efficacy And Management Of Caregivers In Caring People With Mental Illness |



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|---|---|---|
| Room : Guntur Hall 2 | | |
| Topic : Application Of Holistic In Adult Nursing | | |
| NO | PRESENTERS | TITLE |
| 1 | Rozainah Mat Yusoff | The Effects Of Audiovisual Information On Anxiety Level Among Patients Undergoing Elective Coronary Angiogram With Probable Angioplasty |
| 2 | <u>Fuji Rahmawati</u> ¹⁾ , Elsa Pudji Setiawati ²⁾ , Tetti Solehati ³⁾ , Ardini S Raksanagara ⁴⁾ , Wiwi Mardiah ⁵⁾ , Desy Indra Yani ⁶⁾ | The Effect Of Family Support On Quality Of Life Of Patients With Type 2 Diabetes Mellitus In Working Area Of Puskesmas Situ Region Of North Sumedang District Of Sumedang |
| 3 | <u>Laili Rahayuwati</u> ¹⁾ , Kusman Ibrahim ²⁾ , Maria Komariah ³⁾ , Wiwi Mardiah ⁴⁾ , Muhammad Ridwan ⁵⁾ | Living With Breast Cancer And Choosing Therapies For Breast Cancer Patients |
| 4 | <u>Fitria Handayani</u> ¹⁾ , Dwi Pudjonarko ²⁾ | Associated Factor And Predictor Of Post Stroke Depression After 3 Month Onset: A Literature Review |
| 5 | <u>Ahmad Hasyim</u> ¹⁾ , Eny Rahmawati ²⁾ , Ayu Nanda Lestari ³⁾ , Abdul Qodir ⁴⁾ | The Integration Of Modern Wound Care And Patient-Centered Diabetes Education (PCDE) In A Private Nursing Practice Center: Advancement Of Nurse's Role In Diabetes Care |
| 6 | <u>Ichsan Rizany</u> ¹⁾ , Rismia Agustina ²⁾ , Eko Suhartono ³⁾ | The Effect Of Contaminated Wound Care With Water Extract Of Centella Asiatica L. Leaf In Accelerating The Reduction Of Erythema In Rattus Norvegicus |
| 7 | <u>Bayhakki</u> ¹⁾ , Erwin ²⁾ , Wasisto Utomo ³⁾ | Experiences Of Receiving Infusion Therapy During Hospitalization |
| 8 | <u>Purwatisari</u> ¹⁾ , <u>Susana Widyaningsih</u> ²⁾ | Nurses' Perception About Spiritual Needs And Spiritual Care Of Cancer Patients |



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| Room : Guntur Hall 3 | | |
| Topic : Implementation Of Complementary and Alternative Medicine | | |
| NO | PRESENTERS | TITLE |
| 1 | <u>Lee Khuan</u> ¹⁾ , Steven Eric Krauss ²⁾ | Hypertensive Patients’ Preference For Complementary And Alternative Medicine And The Influence Of Those Preferences On Adherence To Prescribed Medicine |
| 2 | Thanida Khongsamai | Effectiveness Of The Strategies Employed By Smoking Cessation Clinics |
| 3 | Muhammad Mu'in | Pattern Of Complementary Therapy Used By Patients In Diabetes Care Regime |
| 4 | <u>Yodha Pranata</u> ¹⁾ , <u>Heri Kristianto</u> ²⁾ , <u>Fatimah Az-Zahra</u> ³⁾ , <u>Firdaus Kristyawan</u> ⁴⁾ , <u>Dewi Pangastuti</u> ⁵⁾ , <u>Dwi Kurnia Sari</u> ⁶⁾ , <u>Retty Ratnawati</u> ⁷⁾ | Effect Of Oyster Mushroom (<i>Pleurotus Ostreatus</i>) Extract On Wound Healing Process Through TGF-B1 Level And Wound Contraction In Diabetic Rats Model |
| 5 | <u>Wilda Yenti</u> ¹⁾ , <u>Rika Fatmadona</u> ²⁾ , Rika Sarfika ³⁾ | The Effectiveness Of Star Fruit (Averrhoa Carambola) To Blood Pressure Of Hypertension Patient Pesisir Selatan District |
| 6 | Ester R. Rodulfa | Educational-Spiritual Care Intervention (ESCI) And Self-Care Of Community Dwelling Senior Citizens With Type 2 Diabetes |
| 7 | Agustina Ari Handayani | The Differences Between Green Tea And Chocolate Spa Therapy On The Changes Of Fatigue Level Of Women |
| 8 | <u>Agus Widodo</u> ¹⁾ , Mbaref Sugita Walisa ²⁾ | Effect Of Brain Gym On Gross Motor Early Childhood In 3-5 Years |



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| 2nd Day : Friday, August 21st 2015 (10.40 – 12.10 a.m) | | |
|---|--|--|
| Room : Guntur Hall 1 | | |
| Topic : Application Of Holistic In Adult Nursing | | |
| NO | PRESENTERS | TITLE |
| 1 | <u>Untung Sujianto</u> ¹⁾ , Erni Tri Ernawati ²⁾ , Ahmad Saekhu ³⁾ | Effects Of The Provision Of Red Betel Leaf Decoction On The Blood Sugar Levels In People With Diabetes Mellitus Type 2 In Krompakan And Bulugede Village, Kendal Regency |
| 2 | Ummu Muntamah | The Effect Of Music Therapy To Decrease Pain Scale In Clients With Post-Operation In Ungaran General Hospital 2014 |
| 3 | Meidiana Dwidiyanti | The Effectiveness Of SOWAN Program Holistic Nursing Intervention On Pulmonary TB Patients' Independence Level |
| 4 | Agus Suyono ¹⁾ , <u>Henni Kusuma</u> ²⁾ | The Relationship Between Family Support Toward Stress Levels Among Breast Cancer Patients At Surgical Oncological Clinic Dr. Kariadi Hospital Semarang |
| 5 | <u>Tuti Pahria</u> ¹⁾ , Carol Windsor ²⁾ , Karen Theobald ³⁾ | Indonesian Women Diagnosed With Breast Cancer: A Hermeneutic Study |
| 6 | Vindriani Widyakurniawati ¹⁾ , <u>Martiyarini Budi Setyawati</u> ²⁾ , Danang Triyudono ³⁾ | The Effect Of Ear Candle Therapy Towards Decreasing Level Of Insomnia Of STIKES Harapan Bangsa Undergraduate Students |



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| 2nd Day : Friday, August 21st 2015 (10.40 – 12.10 a.m) | | |
|---|---|--|
| Room : Guntur Hall 2 | | |
| Topic : Application Of Holistic Nursing in Community and Mental Health Nursing | | |
| NO | PRESENTERS | TITLE |
| 1 | <u>Rina Anggraeni</u> ¹⁾ , Mamat Lukman ²⁾ , Metty Widiastuti ³⁾ | Restraint To Schizophrenic Family Member At Home: Family Experience In Kendal District Central Java |
| 2 | Genius Bulolo ¹ , Yulindra M.N ² , <u>VentiAgustina</u> ² | Nutritional Assesment And Factors Affecting Children’s Nutrition Status In Samiran Village, Kandangan District, Temanggung, Central Java |
| 3 | <u>Wahyu Endang Setyowati</u> ¹⁾ , Darma Karno ² | Relation Between Family Support And Loneliness Level Of Elderly In Nursing Home Of Christian Service In Pengayoman Semarang |
| 4 | Quartilosia Pinastika Sandhityarini ¹⁾ , <u>Nurullya Rachma</u> ²⁾ | Sleep Quality Among Elderly In Nursing Home And Community-Dwelling:A Comparative Study |
| 5 | <u>Paralee Opanant</u> ¹⁾ , Porntip Pa-in ²⁾ | Development Health And Social System In Long Term Care For The Promotion Of Active Ageing In The Northern And Rural Community |
| 6 | Azka Fathiyatir Rizqillah ¹⁾ , <u>DiyanYuli Wijayanti</u> ²⁾ | The Effect Of Spirituality Level On The Incidence Of Elderly Depression In Padangsari District |



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|--|--|---|
| Room : Guntur Hall 3 | | |
| Topic : Application Of Holistic Nursing in Maternity and Child Health Nursing | | |
| NO | PRESENTERS | TITLE |
| 1 | <u>Ari Pristiana Dewi</u> ¹⁾ , Febriana Sabrian ²⁾ , Widia Lestari ³⁾ | An Analysis Of Sexual Behavior In Adolescents In Kota Pekanbaru, Riau |
| 2 | Siti Haryani | Descriptive Study On Mother’s Knowledge About Preparation Of Toilet Training On The Children With The Age Toddler (1 – 3 Years) In Winong Village Ngampel District Kendal Regency |
| 3 | Sulidah | Correlation Between Knowledge Of Mothers With Complete Basic Immunization Status In Infants |
| 4 | Yuyun Setyorini | Phenomenological Study Of Teen’s Experience In Dealing Dysmenorrhea |
| 5 | <u>Yuni Puji Widiastuti</u> , Dewani Vita Cahya Abdilah, Nurul Qomariyah | The Risk Factors of Labor Complications Occurence in Mawar Room dr. H. Soewondo Hospital Kendal |



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|--|---|---|
| Venue : Front Lobby of Guntur Hall | | |
| NO | PRESENTERS | TOPICS |
| 1 | <u>Nicolasa C. Reñosa</u> ¹ & Mark Donald C. Reñosa ² | “Arming Juan dela Cruz Nightingale’s Lamp”: Phenomenological Inquiry into the Mentee Lived Experiences of Novice Nurses |
| 2 | Wenny Nugrahati Carsita | Guided imagery as a complementary therapy for depression in nursing |
| 3 | <u>Roziah Arabi</u> ¹⁾ , Noor Khamisah Mustafa ²⁾ , Norazizah Che Mustafa ³⁾ | Factors contributing to sleep disturbances and the impact to academic achievement among nursing students’ in Malaysia |
| 4 | <u>Hasnah Yahaya</u> ¹⁾ , Rohaida ²⁾ , Nik Safiah Nik Ismail ³⁾ | A Study on Women Life after Breast Cancer Treatment |
| 5 | Itha Kartika Ardina ¹⁾ , <u>Zubaidah</u> ²⁾ | Mothers’ knowledge, attitude, and practice about unhealthy snack among school aged children |
| 6 | <u>Dwi Septian Wijaya</u> ¹⁾ , Arif Nurma Etika ²⁾ , Eva Dwi Ramayanti ³⁾ | The effect of Spiritual Emotional Freedom Technique (SEFT) for smoking intensity on students of SMAN 5 Kediri 2015 |
| 7 | <u>Diah Indriastuti</u> ¹⁾ , Domi Namuwali ²⁾ | Beneficial effects of Doula support on pregnancy |
| 8 | Dwi Rahayu | Community based breastfeeding counseling for support of exclusive breastfeeding on maternal: A Literature Review |
| 9 | <u>Luky Dwiantoro</u> ¹⁾ , Budi Anna Keliat ²⁾ , Adang Bachtiar ³⁾ , Rr Tutik Sri Hariyati ⁴⁾ | The relationship between caring in Primary Health Care team and the achievement of maternal health program in Indonesia |
| 10 | Harin Hidayaturochmah ¹⁾ , <u>Wahyu Hidayati</u> ²⁾ | Pain scale differences during Arterio-Venous (AV) fistula and femoral puncture in chronic kidney disease patient in the Hemodialysis Unit |



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| 11 | <u>Kastuti Endang T¹⁾</u> , Dwi Astuti, ^{S²⁾} | The effect of Self Care Model "Orem" application to the level of family independence in Pulmonary Tuberculosis Treatment |
| 12 | <u>Puji Purwaningsih¹⁾</u> , Nurul Devi Ardiani ²⁾ | A literature review: Moderate pressure massage therapy as a continued intervention for preterm infants at home |
| 13 | Ratna Yuliati ¹⁾ , <u>Anggorowati²⁾</u> | The relationship between maternal motivation and breastfeeding behavior in Kendal |
| 14 | Ciptaningrum Marisa P ¹⁾ <u>M. Hasib Ardani</u> ²⁾ | The effectiveness of the pinwheel toy toward cooperative behavior of preschool during infusion procedure in Roemani Muhammadiyah Hospital Semarang |
| 15 | <u>Ice Yulia Wardani¹⁾</u> , Livana PH ²⁾ , Rahma Fadillah Sopha ³⁾ | Depression and anxiety in chronic kidney disease patients during Hemodialysis Therapy |
| 16 | Panpimol Sukwong | Shaman “ <i>tu txiv neeb</i> ”: Traditional healing of Hmong community in Northern Thailand |
| 17 | <u>Kadek Ayu Erika¹⁾</u> , Lenni Marlina ²⁾ , Nurmaulid, Suni Hariati ³⁾ , Nurhaya Nurdin ⁴⁾ | The effect of mosquito coil on Peak Expiratory Flow Rate (PEFR) in selected public elementary school in South Sulawesi |
| 18 | Yohanes Heri Pranoto | Integrating nursing context and technology usage for English speaking improvement |



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|--|---|---|
| Venue : Front Lobby of Guntur Hall | | |
| NO | PRESENTERS | TOPICS |
| 1 | Sawiji1), Partadiredja G2), Atthobari J3) | Protective effects of Red Sorrel Calyx (H. sabdariffa) on ethanol-induced deficits of spatial memory and estimated total number of Hippocampus Pyramidal Cells in CA1 and CA2-CA3 regions |
| 2 | Ferry Nirwana Ade Saputra1), Devi Nurmalia2) | Description of the implementation of safe surgery checklist in Central Surgical Department |
| 3 | Krismas Bayu Nugroho ¹), Elsa Naviati ²) | The description of knowledge level in treating diarrhea on Balita (children under five) In Public Health Center Work Area Wirosari 2, Wirosari District, Grobogan Regency |
| 4 | Andi Ayu Octo Roswahyuni, Sarah Ulliya | Overview on the Implementation of Caring Interaction between Nurses and Patients in RSJD Dr. Amino Gondohutomo Semarang. |
| 5 | Ike Puspitaningrum1), Siti Robiah2), Dwi Widyastuti3), Sri Purweni4), Devi Nurmalia5) | Nursing documentation guidelines on improving the qualities of the nursing diagnosis, outcome and intervention |
| 6 | Roziah Arabi1), Kamisah Osman2), Hamidah Hassan3), Harlina Harlizah Siraj4) | Nursing students' clinical competency components in Malaysia: An expert interviews study |
| 7 | Anggiesa Rinanta F1), Artika Nurrahima2) | Factors affecting fast food consumption behavior in nursing students Faculty of Medicine Diponegoro University |
| 8 | Erika Rahayu1), Anggorowati2) | Implementation of exclusive breastfeeding in nurses who working in Hospital |
| 9 | Widodo Sarjana1), Alifiati Fitrikasari2), Sri Padma Sari3) | Recovery among People with Mental Illness Perceived by Caregivers lived in Boarding School |
| 10 | Dwi Yuniar Ramadhani1), Umi Setyoningrum2) | The effect of cognitive stimulation therapy (CST) toward the improvement of cognitive and quality of life in elderly with dementia |
| 11 | Wiwin Nur Aeni 1), Renny Triwijayanti 2) | The impact between preceptorship towards the nurses' abilities in providing psycho-social needs of patients suffering cancers |



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|----|---|---|
| 12 | Esthi Darmastuti ¹), Sari Sudarmiati ²) | The relationship between sleep disorders: The degree of insomnia and women menopause quality of life in Tembalang Village |
| 13 | Sri Rejeki ¹), Tri Hartiti ²) | Spouse's electric accupressure metacarpal practice method for reducing pain of mother's in first stage labour |
| 14 | Niken Safitri Dyan Kusumaningrum ¹), Costrie G W ²), Sultana MH Faradz ³) | Male's involvement towards genetic counseling: A survey in Indonesia and Singapore |
| 15 | Kartika Setia Purdani ¹), Putri Puspitasari ²) | Preventive action for housewife to reduce HIV/AIDS |
| 16 | Lidia Ruliastiniwa B ¹), Rita Hadi Widyastuti ²) | The effectiveness of spiritual intervention on depression among elderly |
| 17 | Rosalia Aini La'bah, Dwi Susilawati | the correlation between quality of life and sexual intercourse of menopause mothers on Pabelan Village, Sukoharjo |
| 18 | Wiwik Misnawati ¹), Chandra Bagus Ropyanto ²) | The Effect of dzikir concerning to pain level after surgical operation |

